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OF ILLINOIS

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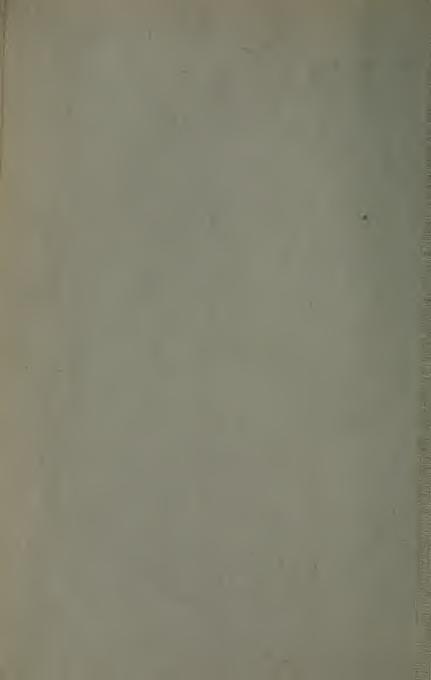
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## MALL MA

# University of Illinois

**REGISTER 1908-1909** 

URBANA, ILLINOIS
PUBLISHED BY THE UNIVERSITY

The Harside Jiress R. R. DONNELLEY & SONS COMPANY CHICAGO

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### THE UNIVERSITY CALENDAR

1908-1909-1910

#### FOR ALL DEPARTMENTS AT URBANA

FIRST SEMESTER 1908-1909

Sept. 21, 22, Monday and Tuesday Sept. 23, Wednesday, 8 a. m.

Sept. 16, Wednesday, 8 a. m.

Oct. 5, Monday, 4 p. m. Nov. 2, Monday

Nov. 19, 20, 21, Thursday to Saturday

Nov. 25, Wednesday, 5 p. m. Nov. 30, Monday, 8 a. m.

Dec. 3, Thursday

Dec. 7, Monday, 4 p. m.

Dec. 11, Friday

Dec. 22, Tuesday, 5 p. m.

Jan. 4, Monday, 8 a. m. Jan. 28, Thursday, 8 a. m. Feb. 1, Monday, 4 p. m. Feb. 4, Thursday, 5 p. m.

Feb. 5, Friday

Entrance examinations begin

Registration days Instruction begins Senate meeting

Latest day for announcing thesis subjects

High school conference Thanksgiving recess begins Instruction begins

Illinois day Senate meeting

Junior promenade Holiday recess begins

Instruction begins

Semester examinations begin

Senate meeting First semester ends

Annual sophomore cotillion

### SECOND SEMESTER, 1908-1909

Feb. 8, Monday, 8 a. m. Feb. 12, Friday Feb. 19, Friday March 9, Tuesday April 5, Monday, 4 p. m. April 8, Thursday, 5 p. m. April 13, Tuesday, 8 a. m. May 21, Friday evening

Instruction begins Lincoln day Annual military ball Annual meeting of Board of Trustees

Senate meeting Easter recess begins Instruction begins

Interscholastic oratorical contest

vii

May 20, 21, 22, Thursday to

Saturday May 22, Saturday

May 30, Sunday

May, between 15 and 31

June 1, Tuesday

June 5, Saturday, 8 a. m.

June 12, Saturday

June 13, Sunday June 14, Monday

June 15, Tuesday

June 16, Wednesday

Public school art exhibit Interscholastic athletic meet

Military day

Hazelton prize drill Annual inspection

Company competitive drill

Latest day for acceptance of theses

Semester examinations begin Semester examinations close

Baccalaureate address

Class day Alumni day

Thirty-eighth annual commencement

1909

SUMMER SESSION

June 21, Monday Aug. 20, Friday Instruction begins Session ends

1909

FIRST SEMESTER, 1909-1910

Sept. 15, Wednesday, 8 a. m. Entrance examinations begin

Sept. 20, 21, Monday and

Tuesday, 8 a. m. to 5 p. m. Sept. 22. Wednesday, 8 a. m.

Nov. I, Monday

Nov. 1, Monday

Nov. 24, Wednesday, 5 p. m.

Nov. 29, Monday, 8 a. m. Dec. 22, Wednesday, 5 p. m.

1910

Jan. 3, Monday, 8 a. m.

Feb. 3, Thursday, 5 p. m.

Registration days Instruction begins

Latest day for announcing thesis subjects

Thanksgiving recess begins

Instruction begins Holiday recess begins

Instruction begins

First semester ends

SECOND SEMESTER, 1909-1910

Feb. 7, Monday, 8 a. m. Feb. 12, Thursday Feb. 18, Friday

March 8, Tuesday

April 4, Monday, 4 p. m. April 7, Thursday, 5 p. m.

April 12, Tuesday, 8 a. m.

Instruction begins

Lincoln day

Annual military ball

Annual meeting Board of Trustees

Senate meeting Easter recess begins Instruction begins May 20, Friday evening May 19, 20, 21, Thursday to Saturday May 21, Saturday May 30, Monday

May, between 15 and 31

June 1, Wednesday June 4, Friday, 8 a. m. June 11, Friday, 5 p. m. June 12, Sunday June 13, Monday June 14, Tuesday June 15, Wednesday Interscholastic oratorical contest Public school art exhibit

Interscholastic athletic meet
Military day
Hazelton prize drill
Annual inspection
Company competitive drill
Latest day for acceptance of theses
Semester examinations begin
Semester examinations close
Baccalaureate address
Class day
Alumni day
Thirty-ninth annual commencement

## CALENDAR 1908, 1909, 1910

Holidays are in italic.

1908	19	1909 1910		
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NOVEMBER	MAY	NOVEMBER	MAY	
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1005 West California avenue, U.

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Walter Castella Coffey, B.S., First Assistant, Sheep Hus-
bandry 610 West Oregon street, U.
HENRY ORSON ALLISON, B.S., Assistant, Animal Husbandry
311 East Daniel street, C.
FREDERIC WILLIAM GILL, B.S., First Analyst, Animal Husbandry
601 West Illinois street, U.

In D	Dairy Husbandry—
7	WILBUR JOHN FRASER, M.S., Chief
	1003 South Wright street, C
(	CARL EMIL LEE, B.S., Assistant Chief, Dairy Manufactures 510 West Healy street, C
(	CASSIUS CLAY HAYDEN, B.S.A., Assistant, Dairy Husbandry 904 West California avenue, U
	JESSE MELANGTHON BARNHART, B.S., Assistant Chemist, Dairy
	Husbandry 610 West Illinois street, U
(	CLYDE BESTOR COLEMAN, B.S., First Assistant, Dairy Husbandry 1001 West California avenue, U
]	Nelson William Hepburn, Assistant, Dairy Manufacture 1017 Nevada street, U
]	ROYDEN EARL BRAND, Assistant, Dairy Husbandry 604 West Illinois street, U
1	Walter Lee Gaines, B.S., Assistant, Dairy Husbandry 905 Nevada street, U
n H	Iorticulture—
	Joseph Cullen Blair, M.S.A., Chief
	810 West Oregon street, U
(	CHARLES SPENCER CRANDALL, M.S., Chief, Plant Breeding 1106 West Oregon street, U
	JOHN WILLIAM LLOYD, M.S.A., Assistant Chief, Olericulture 1005 South Wright street, C
]	RALPH BARNARD HOWE, B.S., Assistant, Pomology University Club, U
(	OSCAR S. WATKINS, B.S., Assistant Chemist, Horticulture

HERMAN BERNARD DORNER, B.S., Assistant, Floriculture

University Club, U.

IRA SANFORD BROOKS, B.S., Assistant, Pomology
905 West Nevada street, U.

In Botany—

THOMAS JONATHAN BURRILL, Ph.D., LL.D., Chief
1007 West Green street, U.

#### ENGINEERING EXPERIMENT STATION

EDMUND JANES JAMES, Ph.D., LL.D., President
LESTER PAIGE BRECKENRIDGE, Director
ROY WEAVER RUTT, B.S., Assistant to the Director
ELIZABETH ANDREWS SWIFT, Secretary
The heads of the departments in the College of Engineering

#### SPECIAL INVESTIGATORS

HERBERT FISHER MOORE, M.M.E., Assistant Professor in the department of Theoretical and Applied Mechanics
703 West Park street, C.

KENNETH GARDNER SMITH, A.B., B.S., Assistant Professor (Mechanical Engineering) in charge of Engineering Experiment Station Extension . 905 South Coler avenue, U.

JOHN McBeath Snodgrass, B.S., Associate in the department of 702 West High street, U. Mechanical Engineering

DUFF ANDREW ABRAMS, B.S., Associate in the department of Theoretical and Applied Mechanics 709 South Fourth street. C.

THOMAS HAMER AMRINE, E.E., First Assistant in the department of Electrical Engineering 505 East Green street, C.

WARD REID ROBINSON, B.S., First Assistant in the department of Theoretical and Applied Mechanics 706 South Second street, C.

Franklin Wales Marquis, B.S., First Assistant in the department of Railway Engineering 205 West Hill street, C.

FRANK LYMAN BUSEY, M.E., First Assistant in the department of Mechanical Enginering 203 West Green street, U.

WILFRED FORREST WHEELER, B.S., First Assistant in the department 710 West Oregon street, U. of Chemistry

#### STATE LABORATORY OF NATURAL HISTORY

STEPHEN ALFRED FORBES, Ph.D., LL.D., Director

1200 West Springfield avenue, U.

CHARLES ARTHUR HART, Systematic Entomologist

923 West Green street. U.

504 East Daniel street. C. MARY JANE SNYDER, Secretary FRANK ELMER WOOD, A.B., Assistant in Biological Survey

603 South Orchard street, U. FRANK SMITH, A.M., Zoölogist 913 West California avenue. U.

GRACE OSGOOD KELLEY, B.L.S., Librarian

908 West Oregon street, U.

### STATE ENTOMOLOGIST'S OFFICE

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LINDLEY M. SMITH, B.S., Field Assistant

JOHN JUNE DAVIS, B.S., Field Assistant

GEORGE ETHELBERT SANDERS, B.S.A., Field Assistant 202 North Romine street, U.

ALECANDRÉ ARSÉNE GIRAULT, B.S., Insectary Assistant\* 1015 West Oregon street, U.

<sup>\*</sup>To Septemberii.

Wesley Pillsbury Flint, Manager of Insecticide Operations WILLIAM C. MATTHEWS, Artist FLOY WAY, Stenographer

ERNEST HARLEN SCOTT, Stenographer

705 South Third street, C. 904 West Stoughton street, U.

#### STATE WATER SURVEY

EDWARD BARTOW, Ph.D., Director 1007 West Oregon street, U. THOMAS JONATHAN BURRILL, Ph.D., LL.D., Consulting Bacteriologist 1007 West Green street, U.

SAMUEL WILSON PARR, M.S., Consulting Chemist

919 West Green street, U.

ARTHUR NEWELL TALBOT, C.E., Consulting Engineer
1011 West California avenue, U.

LEWIS ISAAC BIRDSALL, A.B., Chemist Y. M. C. A. Building, C. 903 West Illinois street, U.

## Frank Bachmann, Bacteriologist STATE GEOLOGICAL SURVEY

COMMISSION

GOVERNOR CHARLES S. DENEEN, Chairman Professor T. C. Chamberlin, Vice-Chairman PRESIDENT EDMUND JANES JAMES, Secretary

STAFF

HARRY FOSTER BAIN, Director 104 East Green street, C. FRANK WALLBRIDGE DEWOLF, Assistant State Geologist

907 West Oregon street, U.

EDWARD BARTOW, Consulting Chemist in Water Analysis

1007 West Oregon street, U.

ULYSSES S. GRANT, Consulting Geologist in Lead and Zinc Work Northwestern University, Evanston

SAMUEL WILSON PARR, Consulting Chemist in Coal Investigations 919 West Green street, U.

CHARLES WESLEY ROLFE, Consulting Geologist in Clay Investigations 601 East John street, C.

ROLLIN D. SALISBURY, Consulting Geologist in Preparation of Educational Series University of Chicago, Chicago

J. A. Udden, Geologist in Charge of Deep Well Records

Augustana College, Rock Island THOMAS EDMUND SAVAGE, Geologist 604 South Busey avenue, U. STUART WELLER, Geologist University of Chicago, Chicago EDWIN FULLER LINES, Assistant Geologist

1009 South Third street. C.

RAYMOND SILLIMAN BLATCHLEY, Assistant Geologist

1010 West Green street, U. WILLIAM HENRY HERRON, Geographer U. S. and State Geological 104 East Green street, C. Survevs 908 West Green street, U. E. W. McCrary, Engineer

ROYDEN JOHNSTON TAYLOR, Assistant Hydrographer

405 John street, C. 1107 West Clark street, U. GILBERT M. WOOD, Clerk 808 West Main street, U. SAMUEL ABRAMS, Clerk DAISY OPAL LOCKWOOD, Clerk 1102 West Springfield avenue, U.

# PART I GENERAL INFORMATION



# INTRODUCTORY

The University comprises the following colleges and schools, part of them located at Urbana and part of them in Chicago. Those at Urbana are:

The Graduate School

The Colleges of Liberal Arts, including the College of Literature and Arts, and the College of Science, the School of Education, and the Courses in Training for Business

The College of Engineering, including the School of Railway Engineering and Administration

The College of Agriculture

The College of Law

The School of Library Science

The School of Music.

Those in Chicago are:

The College of Medicine

The School of Pharmacy

The College of Dentistry.

In connection with the College of Agriculture the Agricultural Experiment Station for Illinois is maintained at Urbana, partly by State and partly by Federal appropriations.

The Engineering Experiment Station, established by the State Legislature in 1903, is at Urbana, in connection with the College of

Engineering.

The offices of the State Laboratory of Natural History, State Entomologist, State Water Survey, and State Geological Survey are located at Urbana.

The University Campus is within the corporate limits of Urbana, the west edge of the Campus being the dividing line between Urbana and Champaign. The post-office, express, and telegraph services of both cities are, therefore, equally available for the University. The two cities are connected by an electric street railway, which runs through the University grounds, with ten-minute service.

The University station of the Urbana post-office is in the Library building.

#### HISTORY

The University of Illinois is situated in Champaign county, in the eastern central part of the state, between the cities of Urbana and Champaign, and within the corporate limits of the former. It is one hundred and twenty-eight miles south of Chicago, at the junction of the Illinois Central, the Cleveland, Cincinnati, Chicago and St. Louis, and the Wabash railroads: The country around is a rich and prosperous agricultural region. The cities of Urbana and Champaign have, together, a population of about 20,000.

In 1862 the national government donated to each state in the Union public land scrip in quantity equal to 30,000 acres for each senator and representative in congress, "for the endowment, support, and maintenance of at least one college, whose leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts \* \* \* \* in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

On account of this grant the State pays the University, semiannually, interest at the rate of five per cent. on about \$610,000 and deferred payments on land contracts amounting approximately to \$35,000.

To secure the location of the University several counties entered into competition by proposing to donate to its use specified sums of money, or their equivalent. Champaign County offered a large brick building in the suburbs of Urbana, erected for a seminary and nearly completed, about 1,000 acres of land, and \$100,000 in county bonds. To this the Illinois Central Railroad added \$50,000 in freight.

The state has from time to time appropriated various sums for permanent improvements, as well as for maintenance. The present value of the entire property and assets is estimated at \$3,000,000.

The institution was incorporated February 28, 1867, under the name of the Illinois Industrial University, and placed under the control of a Board of Trustees, constituted of the Governor, the Superintendent of Public Instruction, and the President of the State Board of Agriculture, as *ex-officio* members, and twenty-eight citizens appointed by the Governor. The chief executive officer was called Regent, and was made an *ex-officio* member of the Board and presiding officer both of the Board of Trustees and of the Faculty.

In 1873 the Board of Trustees was reorganized, the number of

appointed members being reduced to nine and of ex-officio members to two—the Governor and the President of the State Board of Agriculture. In 1887 a law was passed making membership elective, at a general state election, and restoring the Superintendent of Public Instruction as an ex-officio member. There are, therefore, now three ex-officio and nine elective members. Since 1873 the President of the Board has been chosen by the members from among their own number for a term of one year.

The University was opened to students March 2, 1868. The number of students enrolled at this time was about fifty, and the Faculty consisted of the Regent and three professors. In the course of the first term another instructor was added, and the number of students increased to 77—all young men.

During the first term instruction was given in algebra, geometry, physics, history, rhetoric, and Latin. Work on the farm and gardens, or about the buildings, was at first compulsory for all students. In March of the next year, however, compulsory labor was discontinued, save when it was made to serve as a part of class instruction. A chemical laboratory was fitted up during the autumn of 1868. Botanical laboratory work began the following year. In January, 1870, a mechanical shop was fitted up with tools and machinery, and here was begun the first shop instruction given in any American university. In the summer of 1871 the Wood Shops and Testing Laboratory, burned on June 9. 1900, were erected and equipped for students' shop work in both wood and iron.

On March 9, 1870, the Trustees voted to admit women as students. In the year 1870-71 twenty-four availed themselves of the privilege. Since that time they have constituted from one-sixth to one-fifth of the total number of students.

According to the original state law, the usual diplomas and degrees could not be granted by the University, but certificates showing the studies pursued and the attainments in each were given instead. The certificates proved unsatisfactory to the holders, and in 1877 the legislature gave the University authority to confer degrees and issue diplomas.

In 1885 the legislature changed the name of the institution to the University of Illinois.

In 1890 the Congress of the United States made further appropriations for the endowment of the institutions founded under the act of 1862. Under this enactment each such college or university received the first year \$15,000, the second \$16,000, and thereafter was to receive \$1,000 a year additional to the amount of the pre-

ceding year, until the amount reached \$25,000, which sum was to be paid yearly thereafter.

May 1, 1896, the Chicago College of Pharmacy, founded in 1859, became the School of Pharmacy of the University of Illinois. Its building is located at Michigan Boulevard and Twelfth Street, Chicago.

Pursuant to action of the Board of Trustees, taken December 8, 1896, the School of Law was organized, and opened September 13, 1897. The course of study covered two years, in conformity with the existing requirements for admission to the bar of Illinois. In the following November, however, the supreme court of the state announced rules relating to examinations for admission to the bar which made three years of study necessary, and the course of study in the Law School was immediately rearranged on that basis. On February 9, 1900, the name of the School of Law was changed, by vote of the Board of Trustees, to College of Law.

Negotiations looking to the affiliation of the College of Physicians and Surgeons, of Chicago, with the University, which had been going on for several years, were concluded by the Board of Trustees, March 9, 1897. Accordingly the College of Physicians and Surgeons became, on April 21, 1897, the College of Medicine of the University of Illinois. The College is located at Congress and Honore Streets, Chicago.

In 1897, the matter of the reorganization of the University Library was considered by the Board of Trustees, with the result that the School of Library Economy which had been established in 1893 at the Armour Institute of Technology, in Chicago, was transferred to the University, and the Director of that school was appointed Librarian of the University Library. In accordance with these acts the State Library School was opened at the University in September, 1897.

In accord with action taken by the Board of Trustees March 12, 1901, a School of Dentistry was organized as a department of the College of Medicine. The School was opened October 3, 1901. The name was changed to College of Dentistry, April 27, 1905.

On January 30, 1906, the Board of Trustees created in the College of Engineering a Department of Railway Engineering; on January 22, 1907, supplementing that action, it established the School of Railway Engineering and Administration.

#### BUILDINGS AND GROUNDS

The land occupied by the University and its several departments embraces about 220 acres, besides a farm of 400 acres.

The Agricultural Building consists of four separate structures, built around an open court and connected by corridors. The main building contains offices, class rooms, and laboratories; administration rooms; and an assembly room with a seating capacity of 500. The other three buildings are each two stories high. These buildings contain, all told, II3 rooms. An adjacent glass structure serves the departments of agronomy and horticulture.

The Agronomy Building is 50 by 100 feet in size, constructed of brick and slate, trimmed with stone. It contains a field laboratory for crop work, in which yields of experimental plats are studied, sample seeds are stored, and specimens are preserved.

The Armory, which has a clear floor space of 15,000 square feet in one hall, gives ample space for company drill and for large audiences upon special occasions.

The Astronomical Observatory is a brick building with extreme dimensions of 75 by 55 feet. It has three wings and is surmounted by a dome 25 feet in diameter. In addition to the equatorial room, the Observatory contains four transit rooms, a clock room, a dark room, a recitation room, and a study.

The Auditorium is a brick and stone building for general meeting purposes. It contains an auditorium seating about 2,200, and a memorial vestibule, all under one large dome. All general University exercises, including convocations and the commencement formalities, are conducted in this building.

The Beef Cattle Building is a one-story building of brick and slate, trimmed with stone, 217 feet across the front, with a wing at either end 33 by 49 feet; the central portion rises two stories and is used for the storage of feed. Other portions of the building are used as quarters for the breeding herd of beef cattle.

The Central Heating Station is a brick building, 55 by 120 feet. It contains boilers of 1,800 horse-power, which furnish steam for heating and power purposes for the buildings on the Campus. An annex contains the pump room and the stock room. The pipes of the heating system and the wires for power and light are carried from the Central Heating Station to the several buildings through brick tunnels. The length of tunnel thus far constructed is 3,200 feet.

The Chemical Laboratory is a three-story building, the ground

plan of which is shaped like the letter E. The extreme dimensions are 230 feet along the front and 116 feet along the wings. The middle rear wing contains the lecture amphitheater, which will seat 350. The end wings contain the general laboratories. The central part of the building is occupied by offices, museum, class and seminary rooms, supply rooms, and a number of special rooms for research work. There is a well-lighted basement, which contains the heating and ventilating plant, and rooms for assaying and metallurgy. In this building are also located the offices and equipment of the State Water Survey and the State Geological Survey.

The Electrical Engineering Laboratory is a two-story brick building, 100 feet by 50 feet, with a wing 90 feet by 50 feet. A basement under the main part contains the storage battery room, calibration room, high-potential laboratory, and shop. The main floor is the laboratory proper containing the machinery and apparatus described under "Equipment." The second floor has three recitation rooms, photometric and telephone laboratories, the reading room of the Electrical Engineering Society, and the offices of the department. The wing contains the University automatic telephone exchange and the power and lighting plant.

In an adjacent building are a storage room and the inspection pit for the electric car, described elsewhere.

Engineering Hall is a four-story building, with a frontage of 200 feet, a depth of 76 feet on the wings, 138 feet on the center, and a net room area of 47,000 square feet. On the first floor are the instrument rooms and work shops of the departments of physics and civil engineering, and the laboratories for advanced physics. On the second floor are the offices and recitation and drawing rooms for the departments of civil, municipal, and electrical engineering, and the physics lecture room. On the third floor are located the offices of the Dean of the College and of the Director of the engineering experiment station; the department of mechanical engineering and the laboratory for elementary physics occupy the rest of the floor. The fourth floor is devoted to the architectural department and contains the architectural library and the laboratory of the department of blue-printing and photography.

The Farm Mechanics Building is 100 by 100 feet in size, three stories in height, and constructed of brick. It contains class rooms and laboratories for the general subject of farm mechanics.

The Horticultural Building is a structure of brick and slate, trimmed with stone, approximately 50 by 100 feet in size. It is used as a field laboratory for horticultural tests; besides it contains sort-

ing rooms, cold storage, and a laboratory for the mixing of spraying materials, as well as for other operations in connection with the horticultural work.

The Law Building is the second oldest building in the University group. It was remodeled throughout in 1902, and has two stories and a basement. The upper floor contains the Law Library, the students' conference room, the private offices of the members of the Law Faculty and the Moot Court Room, a model court room with a seating capacity of four hundred. On the main floor are the • recitation rooms, the Dean's offices and the Faculty room, the students' lounging room, and cloak and locker room. In the basement are the lavatories and store rooms.

The Library Building contains the general University library and temporarily some administrative offices. The main floor contains the reference room, the periodical room, the reading rooms, and the delivery room, which opens into the second story of the book-stack. The second floor contains the Library School study room, the Bolter collection of insects, and the administrative offices of the University. The Library School lecture room, the bibliography, and the order and catalog departments are in the basement. The book-stack is a rear wing to the building, separated from the rest of it by a fireproof wall. The stack will eventually contain five stories, and will accommodate 150,000 volumes. At present but three stories are fitted with shelving.

The Laboratory of Applied Mechanics is a brick building, having a net floor area of 16,000 square feet. The front part contains the materials testing laboratory while the rear wing contains the hydraulics laboratory.

The Mechanical Engineering Laboratory is a brick building with a frontage of 120 feet, a total depth of 182 feet, and a net floor area of 24,000 square feet. The front section is two stories high, and contains offices, lecture and computation rooms, and a large instrument room. Back of this are three bays. The middle bay is provided with a concrete testing floor and a 10-ton three-motor traveling crane of 38-feet span. The north bay contains a 5-ton traveling crane and for the present is used for laboratory work in conection with the departments of civil and electrical engineering and theoretical and applied mechanics.

The Men's Gymnasium is a three-story building of stone and pressed brick, 100 by 150 feet. On the first floor there is a swimming pool, 26 feet wide, 75 feet long, and 8 feet deep at the lower end, lined with white enamel bricks. This floor contains, also, the

general locker room, which is fitted up with all-metal lockers, and with shower, tub, and steam baths; rooms for the University athletic teams; a room for visiting teams; a special dressing room for members of the faculty; and offices for the physical director and athletic instructors. The entire second floor is one large room, which is fitted up with all the modern appliances for gymnastic exercises. The third floor contains an elevated running track, 15 laps to the mile, which is properly banked on the turns to secure the greatest speed and comfort in running.

The Metal Shops occupy a one-story brick building, with a net floor area of 12,000 square feet, containing a lecture room, two office rooms, a machine shop, and a forge shop. The machine shop is 48 by 140 feet. Power is supplied by a 20-horse power electric motor. A three-ton traveling crane of 12-foot span covers the center of the floor for the entire length.

Natural History Hall is occupied by the departments of botany, zoology, physiology, minerology, and geology, for each of which there are laboratories, lecture rooms, and offices. There are six laboratory rooms on each of the main floors,—sufficient altogether to accommodate 200 students, besides offering facilities for the private work of the instructors. An addition now in course of construction will treble the capacity of the building.

The Physics Building now in course of construction will be ready for occupancy in September, 1909.

The Pumping Station of the University water-works is a brick building, 38 by 73 feet, connected with the Central Heating Plant. Four 8-inch wells, 145 feet deep, supply the University with wholesome water. A masonry reservoir provides for a fire-reserve supply. The pumps, tanks, and connections are arranged to give opportunities for experimental work and also to vary the working conditions in the adjacent hydraulic laboratory. In this building is kept the equipment of the University fire department.

University Hall, the oldest of the University buildings, occupies three sides of a quadrangle. It is devoted almost exclusively to class rooms.

The Woman's Building is in pure New England colonial style of architecture, of reddish brown brick, with white stone trimmings. The central part of the structure is the woman's gymnasium. On the lower floor there are a swimming tank, lockers, dressing rooms, and baths. The upper floor is devoted to the main gymnasium, which is 92 by 50 feet. The north wing of the building is given to the department of household science, and the south wing provides

rooms for the social life of the women students. Adjacent to the building is the playground, surrounded by shrubbery. It is equipped with various pieces of apparatus, basket-ball, tennis, hockey courts, divisions of green for lawn bowling, and ample room for games and athletic sports.

The Wood Shop and the Foundry occupy a brick building which has a net floor area of 16,000 square feet. The part of the building devoted to the wood shop contains a bench room, lathe room, machine room, and various smaller rooms for lectures, exhibition purposes, etc. The part devoted to the foundry has a large molding floor traversed by a 5-ton traveling crane, and a large basement room for storage of materials.

#### LIBRARIES

Francis Keese Wynkoop Drury, A.M., B.L.S., Acting Head Librarian

The general University library includes all the books belonging to the colleges and schools of the University which are situated in Urbana. The libraries of the Colleges of Medicine and Dentistry, and the School of Pharmacy, are in Chicago, and are described in connection with those institutions.

June 30, 1908, the several libraries contained the following number of bound volumes and pamphlets:

		Pamphlets
General library	10,390	13,016
State Laboratory of Natural History		
library		16,440
Pedagogical library	1,500	3,000
Quine medical library	12,333	
Pharmacy library	1,500	500

The General Library is the central collection of books housed in the Library building and is for the use of the whole university. The corps of instruction and administrative officers of the University, the graduate students and the members of the senior class have direct access to the shelves; other students may have this privilege upon recommendation by their instructors. All students have the direct use of 10,700 volumes in the reading rooms. The library receives 1,200 periodicals, the current numbers of which are available in the East tower room. As a part of the General Library are included several special collections:

The *University of Illinois collection*, constituting practically the archives of the institution, and including printed material illustrating the history of the University, 250 volumes. Location: Bibliography room.

College publications collection, comprising the catalogs, announcements, reports, studies, etc., of other educational institutions, 3,000 volumes. Location: Stack, first floor.

Theses collection, a complete file of the original copies of the theses presented for graduation from the University of Illinois. They are bound and filed by years; 1,400 volumes. Location: Stack, first floor.

United States Public Documents collection, being the congressional or sheepbound set located here as a designated depository library. 5,500 volumes. Location: Document and Bibliography rooms.

Specifications and Patents collection, a set of the United States specifications and patents, including the Official Gazette of the Patent office, and the abridgments of the British office. 200 volumes. Location: Room 320.

The Dziatzko collection of Library Economy, bought in 1905, the entire library of Karl Dziatzko, librarian of Gottingen University. 300 volumes; 250 pamphlets. Location: Library School room.

The Dittenberger collection of the Classics, bought in 1907, the entire library of Wilhelm Dittenberger, professor of Classical Philology in the University of Halle. 5,600 items. Location: Senate room.

#### DEPARTMENTAL LIBRARIES

Practical use of the books has separated several collections from the library building. Fifteen departments now have books permanently in their care. Seminar rooms also are provided in the library building as far as rooms are available.

#### MASON LIBRARY OF WESTERN HISTORY

The valuable library of western history collected by Edward G. Mason, Esq., long president of the Chicago Historical society, is in the Public Library of the city of Champaign, and is accessible to University students.

#### USE OF THE LIBRARY

The general library is open week days during general sessions of the University from 7:50 a.m. to 10 p.m. It is also open, for reading only, on Sundays from 2 to 6 p.m. Special opening hours are provided for during the summer session and the recesses.

#### LABORATORIES\*

SCIENCE.—The botanical, geological, physiological, zoological, and ceramic laboratories are in Natural History Hall.

The *chemical laboratory* occupies the building of the same name, already described.

The physical laboratories are in Engineering Hall.

The psychological laboratory, in University Hall, is well provided with apparatus for use in experimental study, research, and instruction.

Engineering.—The cement and road laboratories of the department of civil engineering occupy two rooms in the Mechanical Engineering Laboratory.

The electrical engineering laboratory and the mechanical engineering laboratory each occupies its own building, as already described under "Buildings and Grounds."

The hydraulics laboratory and the materials testing laboratory occupy the Laboratory of Applied Mechanics.

Special Research Laboratories.—The chemical laboratory of the Agricultural Experiment station and the physical and bacterio-logical laboratories for the examination of soils are on the third floor of the Agricultural Building.

The State Laboratory of Natural History is in Natural History Hall.

A laboratory for sanitary water analysis has been equipped with all necessary appliances, and chemical investigation of the water supplies of the state is carried on. It is in the chemical laboratory building.

A laboratory of economic geology, for the investigation of clays, lime and cement-making materials, building stones, road materials, and all other mineral substances of economic value, has been equipped with the necessary appliances for such investigations.

A laboratory of ceramics provides facilities for the study of clays and clay products with reference to their properties and the methods of treatment which will produce the best wares.

#### MUSEUMS AND COLLECTIONS

AGRICULTURAL.—The various agricultural departments maintain collections illustrative of their work, prominent among which are

<sup>\*</sup>For a more detailed account of these laboratories, see under the appropriate colleges.

those showing typical specimens of standard varieties of corn, wax models of fruit and vegetables, an extensive horticultural herbarium, specimens of many breeds of live stock, a large collection of farm machinery, and exhibits of negatives and samples showing the progress of certain investigations, especially with fruits, crops, and soils.

ART.—The University Art Gallery was the gift of citizens of Champaign and Urbana. It furnishes an excellent collection of models for students of art. In sculpture it embraces thirteen full-size casts of celebrated statues, forty statues of reduced size, and a large number of busts and bas-reliefs, making in all over 400 pieces. It includes also hundreds of large autotypes, photographs, and fine engravings, representing many of the great masterpieces of painting of nearly all the modern schools, and a gallery of historical portraits, mostly large French lithographs, copied from the national portrait galleries of France. Much of the material is in a room in the Library Building; some is in the rooms of the Department of Art and Design and elsewhere.

Other collections of special value to art students embrace a number of casts of ornament from the Alhambra and other Spanish buildings, presented by the Spanish government; a set of casts from Germany, illustrating German renaissance ornament; a series of art works from the Columbian Exposition; and many miscellaneous casts, models, prints, and drawings.

BOTANICAL.—The herbarium contains about 65,000 mounted specimens of plants. The flora of North America is fairly well represented, the collection of species of flowering plants indigenous to Illinois is particularly complete, and a considerable collection of foreign species has been made. The collections of fungi amount to 32,000 named specimens and include a full set of those most injurious to other plants, causing rusts, smuts, moulds, etc.

COMMERCIAL.—For its courses in industrial economics and commerce the University has a good working collection of the materials of commerce, a lantern and several hundred slides, a liberal supply of political and industrial maps, diagrams and stereoscopic views illustrating various phases of commerce and industry. Most of the articles constituting the commercial museum are the gift of the Philadelphia Commercial Museum.

ENGINEERING.—The following departments of the College of Engineering have extensive and valuable collections, which are placed in rooms in Engineering Hall.

Architecture.—A large number of specimens of stone, brick, terra cotta, sanitary fixtures, casts of moldings and of ornament are in the collection, together with some excellent specimens of industrial art, models of structures, working drawings of important buildings, 8,500 lantern slides, 20,000 plates and photographs, and an excellent working library, with large classified collections of plates from the architectural journals, and 2,400 stereoscopic views of buildings, etc.; a complete set of Hough's American Woods, 250 species shown by three sections each; larger Hough's hand specimens of 300 American woods comprising 3 to 4 pieces in each; and a collection of builders' hardware and fixtures.

Civil Engineering.—The civil engineering department has samples of iron, steel, wood, brick, and stone; materials for roads and pavements; models of arches and trusses, one of the latter being full-sized details of an actual modern railroad bridge. The department also possesses a very large collection of photographs and blueprint working drawings of bridges, metal skeleton buildings, masonry structures, standard railroad construction, etc.

Electrical Engineering.—This department has a collection of samples illustrating standard practice in the industrial applications of electricity. There is also a rapidly growing collection of lantern slides, photographs, blue-prints, drawings, pamphlets, and other en-

gineering data.

Mechanical Engineering.—This department includes in its equipment, among other things, part of a set of Reuleaux models, models of valve gears, sections of steam pumps, injectors, valves, skeleton steam and water gauges, standard packings, steam-pipe coverings, and drop forgings. There are also examples of castings, perforated metal, defective boiler plates, and set of drills, with numerous samples of oil, iron, and steel. A large number of working drawings from leading firms and from the United States Navy Department forms a valuable addition to these collections.

GEOLOGICAL.—The geological collections are to be found in the Natural History Building. *Lithology* is represented by type collections of rocks (9,000 specimens), arranged to illustrate Rosenbusch; from Voigt and Hochgesang, L. Eger, and A. Kranz; a type collection from Ward; 1,000 thin sections of rocks and minerals; a large number of ornamental building stones; a stratigraphic collection to illustrate Illinois geology, and a collection of Illinois soils (104).

The mineralogical collection is especially rich in rock-forming minerals, ores, and materials of economic value. It contains over

12,000 specimens carefully selected to meet the wants of the students, and 575 crystal models, a considerable collection of gems and precious stones, and one of polished marbles, granites, and other ornamental stones.

The paleontological collection (49,000 specimens) contains representative fossils from the entire geologic series, but is especially rich in paleozoic forms. It embraces the private collections of A. H. Worthen (including 742 type specimens); Tyler, McWhorter; Mr. Hertzer; 200 thin sections of corals; the Ward collection of casts, and a considerable number of special collections representing the fauna and flora of particular groups.

LIBRARY ECONOMY.—A collection of books and pamphlets on library science, of library reports and catalogs, of mounted samples showing methods of administration in all departments, and of laborsaving devices and fittings has been made, and is arranged by the Dewey decimal classification in the Library School study room.

PEDAGOGICAL.—In the rooms of the department of education in University Hall is a considerable collection of illustrative material from the manual training departments of various schools; photographs of school buildings, drawings and constructive work by pupils in the public schools, and the nucleus of a representative collection of apparatus for the school laboratory.

ZOOLOGICAL.—The zoological collections have been specially selected and prepared to illustrate the courses of study in natural history, and to present a synoptical view of the zoology of the state. They are to be found partly in University Hall, partly in the Natural History building, and partly in the Library building.

The mounted mammals comprise an unusually large and instructive collection of the ruminants of our country, including male and female moose, elk, bison, deer, antelope, etc., and also several quadrumana, large carnivora and fur-bearing animals, numerous rodents, good representative marsupials, cetaceans, edentates, and monotremes. Fifty-nine species of this class are represented by one hundred and one specimens and all the others, excepting the Sirenia, are represented by mounted skeletons. There is also a series of dissections in alcohol, illustrating the comparative anatomy of the group.

The collection of mounted birds includes representatives of all the orders and families of North America, together with a number of characteristic tropical, Bornean, and New Zealand forms. The collection is practically complete for Illinois species. There is also a fine collection of the nests and eggs of Illinois birds. A series of several hundred unmounted skins is available for the practical study of species, and the internal anatomy is shown in alcoholic dissections, and in mounted skeletons of all the orders.

The cold-blooded vertebrates are represented by a series of mounted skins of the larger species, both terrestrial and marine; mounted skeletons of typical representatives of the principal groups; alcoholic specimens, both entire and dissected, and casts. The alcoholics include series of the reptiles, amphibians, and fishes, the latter comprising about 300 species. The dissections illustrate the internal anatomy of the principal groups. The casts represent about seventy-five species, nearly all fishes.

The Mollusca are illustrated by alcoholic specimens of all classes and orders, and dissections showing the internal anatomy of typical forms. There are several thousand shells belonging to 1,700 species. The collection of Illinois shells is fair but incomplete.

The collection of insects has been greatly extended and enriched by the Bolter Collection, donated to the University by the executors of the estate of the late Andreas Bolter, of Chicago, which now contains over 16,000 species, represented by about 120,000 specimens, named, labeled, and systematically arranged.

The lower invertebrates are represented by several hundred dried specimens and alcoholics and by a large series of the famous Blaschka glass models.

The embryology of vertebrates and invertebrates is illustrated by several sets of Ziegler wax models, and numerous series of slides, sections, and other preparations.

In addition to the above, the extensive collections of the State Laboratory of Natural History, peculiarly rich in Illinois materials, are available for illustrative purposes, as well as for original investigation by advanced students.

## ADMINISTRATION

GOVERNMENT.—The government of the University is vested by law primarily in the Board of Trustees. This Board consists of nine members elected by the people for a term of six years. The term of three members of the Board expires every second year.

Besides the elective members, the Governor of the State, the President of the State Board of Agriculture, and the Superintendent of Public Instruction are *ex-officio* members.

The administration of the University is vested by the Trustees in the President of the University, the Senate, the Council of Administration, the Faculties of the various colleges, and the Deans.

The President is the administrative head of the University.

The Vice-President has general oversight of the work of instruction in the University and acts for the President in case of his absence or disability.

The Dean of the Graduate School carries out University regulations concerning the Graduate School and has special supervision of its work.

The Dean of each college is responsible for carrying out all University regulations within his college.

The Dean of Undergraduates acts as adviser to undergraduate male students and is charged with general care of the conduct of these students.

The Council of Administration is composed of the President, the Vice-President, the Dean of the Graduate School, the Dean of Undergraduates, and the Deans of the separate colleges. It constitutes an advisory board to the President, and has exclusive jurisdiction over all matters of discipline. The Council does not determine educational policy; but when any matter arises which has not been provided for by common usage, or by rule of the Senate, and cannot be conveniently laid over till the next meeting of the Senate, the Council may act upon the same according to its discretion.

The Senate, composed of those members of the faculty in charge of separate departments of the various colleges and schools, and all other full professors, is charged with the direction of the general educational policy of the University. The Faculties of the colleges and schools of the University, composed of the members of the corps of instruction of these colleges and schools, have jurisdiction, subject to higher University authority, over all matters which pertain exclusively to these organizations.

Organization.—For the purpose of administration, the University is divided into several colleges and schools. They are not educationally separate, but are interdependent, and together form a unit. The colleges and schools are as follows:

- I. The College of Literature and Arts
- II. The College of Science
- III. The College of Engineering
- IV. The College of Agriculture
- V. The Graduate School
- VI. The School of Library Science
- VII. The School of Music
- VIII. The College of Law
  - IX. The College of Medicine
  - X. The College of Dentistry
  - XI. The School of Pharmacy
  - XII. The School of Education
- XIII. The School of Railway Engineering and Administration.

The College of Literature and Arts offers a wide range of subjects in philosophy and arts, including:

- I. Art
- 2. The ancient classical languages
- 3. English literature and language, including rhetoric
- 4. The Romance languages
- 5. The Germanic languages
- 6. The political and social sciences, including history, economics, accountancy, statistics, sociology, and science of government.

The work in economics is so developed on the industrial side that, taken in combination with other subjects, it furnishes

- 7. Courses in business administration.
- 8. Mathematics
- 9. Philosophical subjects, including philosophy, psychology, education, and ethics
  - 10. Household science.

<sup>&</sup>lt;sup>1</sup>Besides the subjects mentioned under each college and school, courses in Military Science and Physical Training are provided in all colleges and schools in Urbana.

The College of Science offers courses in-

- 1. General Science including, besides prescribed work, opportunity to specialize in:
  - 1. Astronomy
  - 2. Botany
  - 3. Chemistry
  - 4. Education
  - 5. Geology (including mineralogy)
  - 6. Household science
  - 7. Library science
  - 8. Mathematics
  - 9. Physics
  - 10. Physiology
  - 11. Psychology
  - 12. Zoology (including entomology).
  - 2. Chemistry
  - 3. Chemical engineering
  - 4. Ceramics
  - 5. Household science
  - 6. Combined course in medicine and science
  - 7. Combined course in engineering and science.

## The College of Engineering offers courses in-

- 1. Architecture
- 2. Architectural engineering
- 3. Architectural decoration
- 4. Civil engineering
- 5. Electrical engineering
- 6. Mechanical engineering
- 7. Municipal and sanitary engineering
- 8. Railway civil engineering
- 9. Railway electrical engineering
- 10. Railway mechanical engineering.

## The College of Agriculture offers courses in-

- 1. Agronomy
- 2. Animal husbandry
- 3. Dairy husbandry
- 4. Horticulture
- 5. Household science
- 6. Veterinary science.

The Graduate School offers courses in: Agronomy, Animal Husbandry, Architecture, Astronomy, Botany, Chemistry, Civil En-

gineering, Dairy Husbandry, Economics, Education, Electrical Engineering, English Language and Literature, French, Geology, German, Greek, History, Horticulture, Household Science, Latin, Mathematics, Mechanical Engineering, Mechanics, Municipal and Sanitary Engineering, Philosophy, Physics, Physiology, Psychology, Political Science, Railway Engineering, Sociology, Thremmatology, and Zoology.

For further information see General Description of Courses, in Part III. The distinctively graduate courses are usually numbered 101, 102, etc., under each subject, but some of the courses open to undergraduates may also be taken for credit towards an advanced degree. See Graduate School, page 133, and the special circular of the Graduate School.

The School of Library Science, or the State Library School, offers a course of study extending over five years, three of which are in either the College of Literature and Arts or the College of Science. The last two years are devoted to courses in Library Science in the Library School. The full course leads to the degree of bachelor of library science.

The School of Music offers courses in vocal and instrumental music, leading to the degree of bachelor of music.

The College of Law offers a course of study leading to the degree of bachelor of laws.

The College of Medicine offers a course of study leading to the degree of doctor of medicine.

The School of Pharmacy offers courses in all branches necessary to a complete scientific and practical knowledge of pharmacy, including pharmacy, chemistry, materia medica, botany, physics, and physiology. The courses lead to the degrees of graduate in pharmacy, and pharmaceutical chemist.

The College of Dentistry offers a three-year course leading to the degree of doctor of dental surgery.

The School of Education enrolls, at the beginning of their junior year, students already registered in other colleges of the University who are preparing to teach, and directs their work for the remaining two years.

The School of Railway Engineering and Administration offers courses of study leading to the degree of bachelor of science in railway civil, railway electrical, and railway mechanical engineering, and a course in railway administration leading to the degree of bachelor of arts.

#### **ADMISSION**

An applicant for admission to any of the colleges or schools of the University must be at least sixteen years of age, and must offer credit for fifteen units\* of high school or other secondary school work, so chosen as to include those prescribed for the particular college he desires to enter. This credit can be secured by

- (a) Examination (see page 30).
- (b) A certificate from a fully accredited high school (see page 31).
- (c) Transfer from some other university or college (see page 38).

Of the fifteen units required for admission, the 5½ units in list A are prescribed for admission to the freshman class in all the colleges and schools of the University, and no substitutions are accepted.

#### Prescribed by all Colleges

Certain ones of the 9½ additional units required for admission are prescribed by individual colleges, as indicated in the following list, and in no case is substitution allowed.

## PRESCRIBED BY INDIVIDUAL COLLEGES

College of Literature and Arts:	Total Prescribed
List A5½	units
History I	unit
Foreign languages 3	
Colleges of Science and Agriculture:	
List A5½	units
Science 2	units7½ units

<sup>\*</sup>A unit is the amount of work represented by the pursuit of one preparatory subject, with the equivalent of five forty minute recitations a week, through 36 weeks; or in other words, the work of 180 recitation periods of forty minutes each, or the equivalent in laboratory or other practice.

College of Engineering:         List A	te
College of Law:  List A	
School of Music:       List A       .5½ units         History       I unit         Foreign language       3 units         Music       2 units       .11½ unit	ts
The remainder of the 15 units must be made up from the suljects in List B. No subject is accepted for an amount less than the minimum mentioned in the list.	
List B: Algebra	t t t t t t t t t t t t t t t
Greek	ts ts ts t t
Zoology18 or 36 weeks ½ or 1 uni	

<sup>\*</sup>In giving credit for Manual Training the University specifies that the work is to be done by competent teachers, as determined by inspection, and that credit shall not exceed one unit, or 360 forty-minute periods of work, including the necessary drawing and shop work.

## DESCRIPTION OF SUBJECTS ACCEPTED FOR ADMISSION

The amount of work in each of the above subjects which corresponds to the minimum number of credits assigned, is shown by the description of the subjects below:

- I. ALGEBRA.—Fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and equations reducible to the quadratic form, surds, theory of exponents, and the analysis and solution of problems involving these.
- 2. ASTRONOMY.—In addition to a knowledge of the descriptive matter in a good text-book, there must be some practical familiarity with the geography of the heavens, with the various celestial motions, and with the positions of the conspicious naked eye heavenly bodies.
- 3. Botany.—A familiar acquaintance is required with the general structure of plants, and of the principal organs and their functions, derived to a considerable extent from a study of the objects; also a general knowledge of the main groups of plants, and the ability to classify and name the more common species. Laboratory notebooks and herbarium collections should be presented.
- 4. CHEMISTRY.—The instruction must include both text-book and laboratory work. The work should be so arranged that at least one-half of the time shall be given to the laboratory. The course, as it is given in the best high schools in one semester or one year, respectively, will satisfy the requirements of the University for the one-half unit or one unit for admission. The laboratory notes, bearing the teacher's indorsement, must be presented in evidence of the actual laboratory work accomplished. Candidates for admission may be required to demonstrate their ability by laboratory tests.
- 5. CIVICS.—Such amount of study on the United States constitution, its history, and interpretation, as is indicated by any of the usual high school text-books on civil government, is regarded as sufficient for one term. The work may advantageously be combined with the elements of political economy.
- 6. Commercial Geography.—The amount and character of the work accepted in this subject is indicated by the scope of such books as Redway's Commercial Geography, Adonis's smaller book on the same subject, the text-book of Gannett, Garrison and Houston, or Trotter's work.
- 7. Drawing.—Free-hand or mechanical drawing, or both. Drawing-books or plates must be submitted. The number of credits allowed depends on the quantity and quality of the work submitted.

- 8. English Composition and Rhetoric.—Correct spelling, capitalization, punctuation, paragraphing, idiom, and definition; the elements of rhetoric. The candidate will be required to write two paragraphs of about one hundred and fifty words each to test his ability to use the English language. This work counts for one unit.
- 9. ENGLISH LITERATURE.—(a) Each candidate is expected to have read certain assigned literary masterpieces, and will be subjected to such an examination as will determine whether or not he has done so. The books assigned for the years 1909 to 1911 are as follows:

Group I (two books to be selected). Shakespeare: As You Like It, Henry V, Julius Cæsar, The Merchant of Venice, Twelfth Night.

Group 2 (one book to be selected). Bacon: Essays. Bunyan: The Pilgrim's Progress, Part I. The Sir Roger de Coverley Papers in "The Spectator." Franklin: Autobiography.

Group 3 (one book to be selected). Chaucer: Prologue. Spenser: Selections from The Faerie Queene. Pope: The Rape of the Lock. Goldsmith: The Deserted Village. Palgrave: Golden Treasury (First Series), Books II and III, with especial attention to Dryden, Collins, Gray, Cowper, and Burns.

Group 4 (two books to be selected). Goldsmith: The Vicar of Wakefield. Scott: Ivanhoe, Quentin Durward. Hawthorne: The House of the Seven Gables. Thackeray: Henry Esmond. Gaskell: Cranford. Dickens: A Tale of Two Cities. George Eliot: Silas Marner. Blackmore: Lorna Doone.

Group 5 (two books to be selected). Irving: Sketch Book. Lamb: Essays of Elia. DeQuincey: Joan of Arc and The English Mail-Coach. Carlyle: Heroes and Hero-Worship. Emerson: Essays (selected). Ruskin: Sesame and Lilies.

Group 6 (two books to be selected). Coleridge: The Ancient Mariner. Scott: The Lady of the Lake. Byron: Mazeppa and The Prisoner of Chillon. Palgrave: Golden Treasury (First Series), Book VI, with special attention to Wordsworth, Keats, and Shelley. Macaulay: Lays of Ancient Rome. Poe: Poems. Lowell: The Vision of Sir Launfal. Arnold: Sohrab and Rustum. Longfellow: The Courtship of Miles Standish. Tennyson: Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur. Browning: Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Evelyn Hope, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, The Boy and the Angel, One Word More, Hervé Riel, Pheidippides.

(b) In addition to the above the candidate will be required to

present a careful, systematic study, with supplementary reading, of the history of either English or American literature.

(c) The candidate will be examined on the form and substance of certain books in addition to those named under (a). For 1909 to 1911 the books will be selected from the list below. The examination will be of such a character as to require a minute study of each of the works named, in order to pass it successfully. The list is:

Shakespeare: Macbeth. Milton: Lycidas, Comus, L'Allegro, and Il Penseroso. Burke: Speech on Conciliation with America; or Washington: Farewell Address, and Webster: First Bunker Hill Oration. Macaulay: Life of Johnson; or Carlyle: Essay on Burns.

The work outlined in (a) (b) (c) counts for two units.

(d) The three units in English composition, rhetoric, and literature, as described above, are required of all students. A fourth unit may be obtained for one full year's additional work in the study of English and American authors.

10. French.—One year's work.—The candidate must have a thorough knowledge of elementary grammar and the irregular verbs; must be able to pronounce correctly, and to translate simple spoken French phrase. He must have read some 300 pages of easy prose, including one modern comedy, and must be able to translate ordinary French prose at sight.

Two years' work.—In addition to the above, the candidate must show proficiency in advanced grammar, the essentials of syntax, and elementary composition. The reading of not less than 400 pages of standard authors, including two plays of Molière, is required.

Three years' work.—In addition to what has already been described the candidate must have had further work in composition. He must further have read not less than 500 pages of standard authors, including Molière, La Fontaine, and Hugo. Some acquaintance with modern lyrics is necessary.

II. Geology.—The student must show familiarity with the principles of dynamic and structural geology, and some acquaintance with the facts of historical geology as presented in Scott's Introduction to Geology, Brigham's Text-book of Geology, or an equivalent, together with at least an equal amount of time spent in laboratory and field work. The laboratory work should follow one or more of the lines indicated below, and note-books should be presented showing the character and amount of work done. a. Studies of natural phenomena occurring in the neighborhood which illustrate

the principles of dynamic geology. Each study should include a careful drawing of the object, and a written description of the way in which it was produced. b. Studies of well-marked types of crystalline, metamorphic and sedimentary rocks, which will enable the student to recognize each type and state clearly the conditions under which it was formed. c. Studies of minerals of economic value, including the characteristics of each, its origin, and the uses to which it is put. d. Studies of the types of soil occurring in the neighborhood, including the origin of each and the cause of differences in appearance and fertility.

- 12. Geometry.—(a) Plane Geometry. Special emphasis is placed on the ability to use propositions in the solution of original numerical exercises and of supplementary theorems.
- (b) Solid and Spherical Geometry. Applications to the solutions of original exercises are emphasized.
- 13. German.—One year's work.—Elementary grammar. Besides the work in grammar, the student should read not less than 150 pages of easy narrative, or descriptive prose.

Two years' work.—In addition to the work outlined under the one year's requirement, the pupil should know the syntax of cases, uses of the subjunctive and infinitive, complex sentence structure, uses of modal auxiliaries and of participal constructions. As an additional reading requirement, from 250 to 300 pages should be translated. Prose composition.

Three years' work.—The third year's study should aim to secure an easy reading knowledge of the language. Standard prose of the grade represented by Freytag, Dahn, or Keller, not less than 100 pages should be read, together with selections from the easier classic dramas. Schiller's Wilhelm Tell, or Jungfrau von Orleans.

Four years' work.—The fourth year of study should be devoted to such works as Gothe's Iphigenie, Tasso, Hermann und Dorothea, Schiller's die Braut von Messina, some consideration of the chief lyric poets, prose composition, and some practice in theme writing.

The statement of requirements in each subject implies the use of a substantial text-book, some elementary training in the use of reference books, and some instruction in historical geography.

14. GREEK.—To obtain one unit, the exercises in any of the beginning books, and one book of the Anabasis or its equivalent, must be offered. For two units, two books of the Anabasis and three of Homer, or their eqivalents, additional to the above, must be presented, together with an amount of Greek prose composition equal

to one exercise a week for one year. For three units the following is required; three additional books of the Iliad, three of the Odyssey, and books VI, VII, VIII of Herodotus, or an equivalent from other authors.

- 15. HISTORY.—No subjects are definitely prescribed in this department, but the following are recommended as best adapted to the high school program:
- a. One year's work.—The history of England and of the United States.
- b. Two years' work.—The following subjects or any of them: The history of Greece and Rome, the history of England, the history of the United States.
- c. Three years' work.—One year in each of the three subjects named in (b).

Elementary examination will be offered in the following subjects: (a) The history of England and the United States, (b) the history of Greece and Rome. (c) General European history. Advanced examinations may also be taken in any one of the subjects above named, which has not been offered to meet the elementary requirements. The examination in each of these subjects is intended to cover one full year of high school work.

16. LATIN.—First year's work.—Such knowledge of inflections and syntax as is given in any good preparatory Latin book, together with the ability to read simple fables and stories.

Second year's work.—Four books of Cæsar's Gallic War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

Third year's work.—Six orations of Cicero. The ability to write simple Latin based on the text. The simpler historical references and the fundamental facts of Latin syntax.

Fourth year's work.—The scansion of hexameter verse, six books of Virgil, with history and mythology.

- 17. Manual Training.—The requirement for one-half unit is the equivalent of 180 40-minute periods in manual training following the syllabus prepared by the manual training section of the high school conference. Not more than one unit will be granted in any case.
- 18. Physics.—One year's high school work covering the elements of physical science as presented in the best of the current high school text-books of physics. Laboratory practice in elementary quantitative experiments should accompany the text-book work.

The candidate's laboratory note-book will be considered as part of the examination.

- 19. Physical Geography.—The amount and character of the work required may be seen by referring to the texts of Gilbert and Brigham, or Davis; the recitations must be supplemented by at least an equal amount of time devoted to laboratory work. The laboratory exercises should follow one or more lines such as are indicated below. Each student should present a note-book showing what he has done.
- (a.) Studies in mathematical geography in which map and scale only are used. These should embrace such topics as length of a degree in longitude in various latitudes; length and breadth of continents, etc., in degrees and miles; relative latitude of places; distances between cities, etc., in degrees and miles; difference in length of parallels and meridians; problems in time; location of time belts, etc.
- (b.) Studies of local topographic features which illustrate the various phases of stream work. Each study should include a drawing or topographic map of the object and a full, clear description of the way in which it was formed.
- (c.) Studies of glacial deposits as shown in terminal and ground moraines, kames, eskers, etc.; distribution of dark and light colored soils; occurrence of lakes, ponds, gravel beds, clay banks, and waterbearing strips of sand and gravel.
- (d.) Studies of stream work as shown in the topographical sheets which may be obtained from the United States Geological Survey at nominal cost.
- (e.) Studies of the form, size, direction and rate of movement of high and low barometer areas, and the relation of these to direction of wind, character of cloud, distribution of heat, and amount of moisture in the air, as shown in the daily weather maps. Later these studies should lead to the making of weather maps from the data furnished by the daily papers, and to local prediction of weather changes based on the student's own observation.
- (f.) Studies of the climate of various countries compared with our own, the necessary data being derived from such topographic, rainfall, wind, current, and temperature maps as are found in Sydow-Wagner's or Longman's atlases.
- 20. Physiology.—For one-half unit are required the anatomy, histology, and physiology of the human body and the essentials of hygiene, taught with the aid of charts and models to the extent

given in Martin's Human Body (Briefer Course). For more than one-half unit, the course must include practical laboratory work.

21. Zoology.—The instruction must include laboratory work equivalent to four periods a week for a half-year, besides the time required for text-books and recitation work. Note-books and drawings must be presented to show the character of work done and the types of animals studied. The drawings are to be made from the objects themselves and not copied from illustrations, and the notes are to be a record of the student's own observation on the animals examined. The amount of equipment and character of surroundings must, of course, determine the nature of the work done and the kind of animals studied, but in any case the student should have at least a fairly accurate knowledge of the external anatomy of each of eight or ten animals distributed among several of the larger divisions of the animal kingdom, and should know something of their life histories and of their more obvious adaptations to environment. It is recommended that special attention be given to such facts as can be gained from a careful study of the living animal. The names of the largest divisions of the animal kingdom with their most important distinguishing characters and illustrative examples, selected, when practicable, from familiar forms, ought also to be known.

## (a) Admission by Examination

Each candidate for admission by examination is required to pass examinations on the subjects prescribed for the college to which admission is desired, and on additional subjects to make a total of 15 units.

Entrance examinations are on the subjects outlined on pages 24 ff., and are given at the University in accordance with the table following. The scholarship examinations (see page 45) afford an opportunity to pass a part of the entrance examinations before coming to the University.

## <sup>1</sup>Program of Examinations, September 15 to 18, 1909.

All persons who wish to enter the University in September, 1909, except those holding certificates of graduation from accredited schools, and scholarship certificates, and those for whom a transfer of all entrance credits from some other college or university has already been approved, must present themselves at the Registrar's

<sup>&</sup>lt;sup>1</sup>The examinations in 1910 will probably be held September 14 to 17.

office, Library Building, at 9 o'clock a. m., Wednesday, September 15. At that time application for admission will be received, and applicants will be given all necessary directions as to examinations.

Latin, first unit, or second unit, or both..... Thursday 1:00 p. m.

Civics, ½ or 1 unit ......Friday 10:30 a. m.

Physiology, ½ or 1 unit......Friday 3:30 p. m.

German, first unit, or second unit, or both.....Saturday 8:00 a. m.

German, third unit, or fourth unit, or both.....Saturday 10:30 a. m. French, first unit, or second unit, or both.....Saturday 8:00 a. m.

Commercial Geography, ½ unit ............Saturday 10:30 a. m. Latin, third unit, or fourth unit, or both.....Saturday 1:00 p. m.

The time for examination in free hand drawing, in Greek, and in manual training will be arranged with candidates.

## (b) Admission by Certificate from an Accredited Preparatory or High School

One wishinng to enter the University from an accredited school must furnish the Registrar an official certificate of his preparatory work. If the certificate meets in full the requirements for admission to the college or school in which the course which the candidate wishes to pursue is given he will be granted a permit to enter. If the certificate is deficient, either because the school is not fully accredited or because the candidate has not taken prescribed and other acceptable work in sufficient amount, he may be admitted as a "conditioned" student, provided the deficiencies do not exceed two units and are not in work which should precede the prescribed

courses of the first semester. The conditioned student must clear off all conditions before registering the second year.

Blank certificates and application for admission may be had of the Registrar and should be filled and sent to him for approval before the date of registration.

All high schools accredited by the University are in the accompanying list. They are not all accredited for the same amount of work, or all for the same subjects. The University high school visitor upon request inspects high schools not previously accredited, when the request is accompanied with a report of the school which shows that its course of study merits such inspection. The University accredits all work thus found sufficiently well done.

## LIST OF ACCREDITED SCHOOLS

[Correct to December 5, 1908]

The following high schools, having all the prescribed units, and enough others to make up the total number (15) of units required, are in the list of fully accredited schools:

School	Superintendent	PRINCIPAL
Aledo	F. N. Taylor	Ida H. Way
Alton	R. A. Haight	B. C. Richardson
Amboy	Maude A. McElroy	Jeanette Worthen
Anna	H. C. Fletcher	
Arcola	P. M. Hoke	Imogene Shade
Armington (Hittle Twp.)		G. A. Cramer
Ashland	James G. Norris	Clara Sinclair
Assumption	Oren A. Barr	Anna Schwietzka
Atlanta	H. H. Kirkpatrick	Bertha Denning
Auburn	H. A. Perrin	Frances Bunnell
Augustana College Academ	ny (Rock Island)	G. A. Andreen, Pres.
Aurora (East)	C. M. Bardwell	G. W. Kelly
Aurora (West)	A. V. Greenman	Harold Steele
Batavia (East)	L. F. Wentzel	L. C. Goff
Batavia (West)	J. N. Adee	Eleanor Johnston
Beardstown	J. T. Gale	Elva Saunders
Belleville	G. H. Busick	H. W. Brua
Belvidere (North)	E. D. Merriman	Flora Fellows
Belvidere (South)	C. H. LeVitt	Myrtle R. Strickler
Bement	S. W. Wright	Lawrence Radford
Benton	Roy Wilkins	W. A. Cook
Biggsville Twp.		L. O. Culp
Bloomington	J. K. Stableton	William Wallis
Blue Island	J. E. Lemon	J. E. Lemon
Bradley Polytechnic Instit	cute (Peoria)	T. C. Burgess, Director
Burlington, Iowa	F. M. Fultz	W. L. Hanson

School	Superintender
Bushnell	W. H. H. Miller
Cairo	T. C. Clendenen
Camp Point	S. S. Simpson
Canton	
Carlinville	G. W. L. Meeker
	J. E. Wooters
Carmi	E A D - Put
Carrollton	E A. Doolittle
Carthage	D. H. Wells
Carthage College Academy	
Centralia Twp.	*** *** ***
Champaign	W. W. Earnest
Charleston	DeWitt Elwood
Chenoa	A. B. Hiett
Chester	James A. Raibourn
Chicago	
Austin	E. G. Cooley
Calumet	44
Chicago (South)	**
Crane, R. T. (M. T. H.)	44
Curtis	44
Englewood	44
Hyde Park	44
Jefferson	**
Lake	**
Lake View	**
McKinley	**
Marshall	44
Medill	4.6
Tuley	44
Waller, Robert A.	4.6
Wendell Phillips	44
Chicago Heights Twp.	
Chrisman	E. J. Vines
Clinton	H. H. Edmunds
Clinton, Iowa	O. P. Bostwick
Colfax	J. H. Smith
Covington, Ind.	Edwin C. Dodson
Danville	L. H. Griffith
Davenport, Iowa	F. L. Smart
Decatur	H. B. Wilson
	n. b. wiison
DeKalb Twp.	Diana D. Mintan
Delavan	Edgar F. Nichols
DesPlaines (Maine Twp.)	77. 0. 36
Dixon	V. G. Mays
Dixon (North)	H. V. Baldwin
Dubuque, Iowa	F. T. Oldt
Dundee Dundee	E. C. Fisher
DuQuoin Twp.	TI D D' 1
Dwight	H. B. Dickey
Earlville	J. E. Clum
East St. Louis	J. E. Miller

PRINCIPAL
Kate Mann
W. D. Bannister
Bessie Allen
C. L. Lawyer
Margaret Hubbard

J. A. Pinkerton
Josephine Simmons
C. B. Newcomer
C. H. Elliott
Lottie Switzer
W. R. Spurrier
Maud Fairfield
Frank P. Allen

Geo. H. Rockwood Avon S. Hall Chas. I. Parker Albert R. Robinson Thomas G. Hill James E. Armstrong Hiram B. Loomis Chas. A. Cook Edward F. Stearns Benj. F. Buck Geo. M. Clayberg Louis J. Block Albert A. Sabin Franklin P. Fisk Oliver S. Westcott Spencer R. Smith E. L. Boyer Helen E. Booker J. W. Browning Frank E. Millar Lida J. Smith Ira H. McIntire Z. M. Smith G. E. Marshall S. W. Ehrman F. M. Giles Rosa A. Tomm C. S. Stewart J. W. Thalman Jessie F. Wheeler J. A. Anderson Edna Beers C. W. Houk Goldy Hamilton H. G. Kneller C. L. Manners

School	SUPERINTENDENT	PRINCIPAL
Edwardsville	Heywood Coffield	H. Lavinia Moore
Elgin	R. I. White	W. L. Goble
Elgin Academy		G. N. Sleight
Elmwood	T. S. Henry	Margaret McCowan
El Paso (East)	F. W. Cox	Ruby Hildreth
El Paso (West)	E. W. Cresap	Mildred Coburn
Eureka	J. M. Kirby	Page L. Baker
Evangelical Proseminar (F	Clmhum+)	Daniel Irion, Directo
Evanston Twp.	Similarst)	W. F. Beardsley
Fairbury	C. C. Whiteman	H. Alena Wolfe
Fairfield	James A. Porter	Florence A. Cutright
Farmer City		
Farmington	C. C. Covey	Effie Tull
Forrest	A. J. Beatty	Pearl Matthews
Francis W. Parler School	George N. Bradley	Susan Van Ursdale
Freeport		Flora J. Cooke
Fulton	S. E. Raines	L. A. Fulwider
	H. B. Price	Clara Penstone
Galena	B. L. Birkbeck	Katherine H. Obye
Galesburg	W. L. Steele	F. D. Thomson
Galva	F. U. White	Anne E. Edwards
Geneseo	H. B. Fisher	Mrs. Lillian Deming
Geneva	E. A. Ellis	Ethel Bendoin
Genoa	E. S. Clark	Frances Graves
Georgetown	O. P. Rees	O. P. Rees
Gibson City	Charles Condit	Margaret Nicholson
Gilman	J. C. Reeder	Esther Massey
Girard	F. E. Wolfe	B. E. Asplund
Grand Prairie Seminary (C	)narga)	H. H. Frost, Pres.
Granite City	L. P. Frohardt	H. D. Waggoner
Greenview		Lena O. Dimmitt
Greenville	C. N. Peak	Mamie E. Graff
Harrisburg Twp.		Harry Taylor
Harvard	B. A. Folk	Meroe Conlan
Harvey (Thornton Twp.)	2. 11. 1 OIR	L. W. Smith
Havana	W. H. D. Meier	Sara E. Pierce
Henry	W. E. King	Marie P. Pfaff
Heyworth	W. P. Miller	W. H. Kummer
Highland	Oscar F. Weber	Ethel Reed
Highland Park (Deerfield	Tour \	
Hillsboro		R. L. Sandwick
Hinsdale	F. D. McKittrick	H. L. Cox
Hoopeston	H. E. Giles	Ora R. Whitmore
Hume	Arthur Verner	M. M. West
	J. H. Trinkle	Nina Williams
Illinois Woman's College (		Jos. R. Harker, Pres.
Jacksonville	W. A. Furr	G. H. Wilkinson
Jerseyville	Joshua Pike	E. B. Shafer
Joliet Twp.		J. Stanley Brown
J. Sterling Morton (Clyde '		H. V. Church
Kankakee	F. N. Tracy	C. H. Kingman
Kansas		
Keithsburg	E. A. Huff	Alva Alexander

Murphysboro Twp.
Naperville (Ellsworth)

Nokomis

School	Superintendent	PRINCIPAL
Kenilworth (New Trier Tw		F. L. Sims
Kenwood Institute (Chicag		Mrs. Isabel Buckingham
Keokuk, Iowa	William Aldrich	R. L. Reid
Kewanee	R. G. Jones	O. A. Rawlins
Knoxville	Oliver R. Zool	Mina Van Cleve
Lacon		D. Irene Turner
LaGrange (Lyons Twp.)		John E. Stout
LaHarpe	T. W. Everett	Fanny Clary
Lake Forest Academy		W. M. Lewis
Lanark	O. W. Hoffman	Mabel Schultz
LaSalle-Peru Twp.		T. J. McCormack
LeRoy	S. K. McDowell	Florence Bullock
Lewistown	M. N. Beeman	Frank Midkiff
Lexington	J. G. Moore	L. Maude Force
Libertyville Twp.	j. o. 120010	J. W. Bugg
Lincoln	Anthony Middleton	A. F. Trams
Litchfield	A. S. Anderson	Paul M. Smith
Lockport	G. N. Snapp	May E. Chalfant
Loda	E. W. Powers	M. Hortense Clark
Lovington Twp.	D. W. Towers	E. S. Jones
McHenry	W. F. Rice	W. F. Rice
Macomb	J. C. Burns	Carl E. Croson
Mansfield	O. N. Kiger	Lucy M. Armstrong
Marengo	John S. Collier	B. E. Shulty
Marion	J. W. Asbury	E. G. Lentz
Maroa	D. Frank Fawcett	E. R. Bryant
Marseilles	E. A. Collins	Blanche A. Hensel
Marshall Twp.	E. A. Collins	J. L. Pricer
Martinsville	J. E. Demmer	C. W. Fender
Mason City	Arthur C. Hall	Laura Dayton
Mattoon	G. P. Randle	J. F. Wiley
		F. M. Crosby
Maywood and Melrose Par		r. M. Closby
Mendota (East)	J. H. Light E. H. Murray	Myra J. Howes
Mendota (West) Metropolis	F. C. Prowdley	Mrs. Rose Cutting
Minonk	•	Mary E. McIlhenny
Moline	William Hawkes	
	B. B. Jackson	E. P. Nutting P. S. Barto
Momence	R. E. Selby	
Monmouth	W. R. Snyder	T. C. McCracken
Monticello Manna Parla	B. D. Remy	E. V. McLaughlin
Morgan Park	J. H. Heil	J. H. Heil
Morris	T. M. Birney	J. S. Hunter
Morton Twp.	777 O D .11	T. L. Cook
Mt. Carmel	W. S. Booth	Harriett Berninger
Mt. Morris College (Preparatory)		J. E. Miller, Pres.
Mt. Pulaski	R. H. Perrott	Eugenie Shinn
Mt. Sterling	L. M. Test	Susan Rebhan
Mt. Vernon Twp.		J. M. Dickson
Murphysboro Twp.	D 4 77 1 11	E. E. Van Cleve

F. A. Kendall

Henry Buellesfield

Adelaide Clancy

Nellie Seegar

School	Superintendent	PRINCIPAL
Normal	E. W. Davis	Charles A. Barnhart
North Park College (Chica		A. W. Frederickson
Northwestern Military Ac		
	Col. H. P. Davidson	Dr. H. H. Rogers
Nunda & Crystal Lake	A. M. Shelton	Minnie Adams
Oak Park & River Forest		J. Calvin Hanna
Olney	J. O. Marberry	J. A. Stevenson
Onarga	J. H. Whitten	Alberta Sapp
Oregon	Frank G. Taylor	Edith Rodkey
Ottawa Twp.		W. F. Mozier
Pana Twp.		J. W. D. Butcher
Paris	E. B. Brooks	Bertha Miller
Paw Paw	F. J. Snapp	A. A. Franzke
Paxton	O. J. Bainum	C. A. Langworthy
Pekin	J. J. Crosby	I. L. Conner
Peoria	Gerard T. Smith	A. W. Beasley
Petersburg	H. E. Waits	Petra M. Dahl
Pittsfield	S. T. Robinson	Nellie A. Moore
Plainfield	L. H. Darling	Viola Sonntag
Plano	W. S. Bixler	M. A. Nichol
Polo	W. L. German	Clara L. Buswell
Pontiac Twp.		C. E. DeButts
Princeton Twp.		H. S. Magill, Jr.
Quincy	D. B. Rawlins	C. R. Maxwell
Rantoul	E. H. Miller	Marcia Van Duzer
Riverside	A. F. Ames	T. H. Ziegler
Rochelle	C. E. Joiner	Mary McArdle
Rock Falls	E. O. Phares	Etta Grunewald
Rockford	P. R. Walker	C. P. Briggs
Rockford College (Prepara	tory)	Julia M. Gulliver, Pro
Rock Island	H. B. Hayden	H. E. Brown
Roodhouse	H. T. White	Adelaide Dressler
Roseville Twp.		A. C. Booz
Rossville	I. A. Smothers	O. S. Hubbart
Rushville	C. E. Knapp	A. E. Van Landegen
St. Charles	H. W. Monical	Gertrude Neal
St. Louis, Mo.	Ben Blewett	W. J. S. Bryan
St. Mary's Academy (Jolie		Mother M. Ignatia
Sandwich	W. W. Woodbury	Myrtie Thayer
Savanna Twp.		Oscar F. Smith
Shelbyville	A. F. Lyle	A. M. Cannon
Sheldon	F. L. Holch	H. J. Atkinson
Southern Collegiate Institu		F. B. Hines, Pres.
So. Ill. State Normal, H. S	S Dent (Carbondale)	G. D. Wham
	S. B. Hood	S. E. Reecher
Sparta Springfield	J. H. Collins	L. M. Castle
	J. 21. Comms	E. T. Austin
Sterling Twp.		R. R. Upton
Streator Twp.	O. B. Lowe	Laura Hazle
Sullivan	H. A. Bone	Evangeline Shattuck
Sycamore Town	II. A. Done	Walter E. Ervin
Taylorville Twp.		TO STOCK IN LANGE

School	Superintender
Terre Haute, Ind.	James H. Tomlin
Tiskilwa	C. F. Miller
Tuscola	Lewis Hoover
Upper Alton	S. J. Curlee
Urbana	A. P. Johnson
Vandalia	D. B. Fager
Vermilion Academy	(Vermilion Grove)
Virden	J. Carl Stine
Virginia	R. C. Hiett
Warren	
Washington	E. E. Webster
Watseka	L. W. Haviland
Waukegan Twp.	
Waverly	H. A. Withee
Wenona	R. B. Henley
West Chicago	L. A. Reisner
W. Ill. St. Normal A	cademy (Macomb)
Western Military Ac	ademy(Upper Alton)
Wheaton	J. B. Russell
White Hall	J. P. Scheid
Whiting, Ind.	J. C. Hall
Wilmington	Lewis A. Mahoney
Woodstock	C. E. Douglass
Wyoming	A. B. Unger
Yorkville	E. C. Thomas
Following are	e partly accredited sch

## ools:

Tottowing ar	e parity accreation sen
Abingdon	A. C. Butler
Ashton	B. A. Streeter
Atwood	Valentine Smith
Augusta	S. D. Faris
Bunker Hill	H. M. Anderson
Cambridge	J. M. Markel
Carlyle	M. N. Todd
Casey	V. I. Brown
Cerro Gordo	Charles E. Knechler
Chatsworth	H. L. Kessler
Chillicothe	J. L. Robertson
Collinsville Twp.	
Cuba	Robert D. Hill
Downer's Grove	L. G. Avery
Edinburg	J. Louis Hart
Effiingham	T. B. Sullins
Elizabeth	Clark C. Emry
Flora	J. A. Davis
Forreston	S. H. Hetrick
Franklin Grove	F. L. Bennett

H.

Do

L.

H.

Greenfield

Griggsville

Hamilton

Greenup

Mr. TIMUCISON	riderarde Jardine
M. Markel	Alice M. Canham
N. Todd	H. J. Beckemeyer
I. Brown	L. A. Perkins
arles E. Knechler	Nettie G. Jencks
L. Kessler	Minnie Kessler
L. Robertson	Katherine Scarry
	C. H. Dorris
bert D. Hill	Mrs. A. W. Thomas
G. Avery	M. Maude Manley
Louis Hart	Dora L. Nelson
B. Sullins	Margaret Meneely
ark C. Emry	Juanita C. Snyder
A. Davis	Jessie Hanon
H. Hetrick	Jane Parmelee
L. Bennett	Lillian Herstein
G. Russell	Helen G. Russell
nald McCash	Mary Carr
W. Ragland	Roberts S. Amrine
M. Billingsley	Leona McAnulty

PRINCIPAL C. J. Waits R. S. Merrick G. J. VanBuren Clarence Anderson M. L. Flaningam Francis Gray Charles L. Coffin I. Carl Stine Laura Mason Olivette M. Buser C. H. Wright E. L. Lawson W. J. Stebbins Jennie M. Lloyd E. W. Pearson Elizabeth Pearce Alfred Bayliss A. M. Jackson Ella M. Gregg Isabel Anderson W. W. Holliday Ira D. Yaggy M. O. Roark Ruth E. Ferris Lepha McCleary

H. E. Hoagland Eva C. Noelsch Elizabeth Hale Arthur Decker Adelaide Tardine

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School	Superintendent	PRINCIPAL
Hebron	Charles E. Lowman	Agnes Gunther
Jennings Seminary (Aur	ora)	Bertha Barber
John Swaney School (Mo	eNabb)	I. A. Madden
Lawrenceville Twp.		H. W. Hostettler
Lena	L. M. Carpenter	Sue L. Wilson
McLeansboro	W. C. Fairweather	Chester A. Allen
Madison	Louis Baer	Sadie Megowen
Moweaqua	S. A. Edwards	Hazel Clifford
Nashville	A. E. Gilpin	B. Y. Alvis
Neoga	John Scrugham	Vera Turell
Newman	O. C. Bailey	Anna S. Parks
Newton	N. N. Stevenson	Antoinette Girhard
Oakland	G. W. Sutton	Laura V. Hale
Odell	W. M. Vaughn	Lillie Paisley
Palatine	M. L. Smyser	M. L. Smyser
Princeville	L. P. Baird	Mrs. W. S. Baker
Prophetstown	G. V. Clum	Mary L. Barnes
Robinson	J. G. Slater	L. W. Chatham
Rutland	B. R. Morris	Clara A. Bartow
St. Alban's School (Knoxville)		Lucian F. Sennett
St. Mary's School (Knoxville)		Dr. C. W. Leffingwell
Saybrook	C. L. Kyner	C. L. Kyner
Sheffield	E. J. Bashore	E. J. Bashore
Toulon Academy		W. F. Nicholsen
Washburn	Elwood Anderson	Irene Phillips
Waterloo	C. M. Gash	Emma Meyer
Winchester	B. F. Parr	Marie R. Way

# (c) Admission by Transfer of Entrance Credits from Other Colleges or Universities

A person who has been admitted to another college or university of recognized standing will be admitted to this University upon presenting a certificate of honorable dismissal from the institution from which he comes and an official statement of the subjects upon which he was admitted to such institution, provided it appears that the subjects are those required here for admission by examination, or real equivalents. The candidate should submit such papers to the Registrar before the time of entrance.

#### Admission to Advanced Standing

After matriculation, an applicant may secure advanced standing either by examination or by transfer of credits from another college or university.

I. By examination,—Advanced standing is granted only by examination, unless the applicant is from a fully accredited school. In such case, credit may be obtained as explained in the next paragraph.

2. By transfer of credits.—Credits of another college or university, or from a fully accredited high school, may be accepted for advanced standing. An applicant for such credit must present a certified record of work done in the institution from which he comes, and, except in cases of transfer from high schools, must also present a certificate of honorable dismissal.

### ADMISSION AS SPECIAL STUDENT\*

Admission as a special student must be secured according to the terms prescribed by the individual colleges, which see. A special student is not matriculated; he must be twenty-one† years of age; he must pay a tuition fee of seven dollars and a half a semester in addition to the regular incidental fee of twelve dollars. No one may enroll as a special student in any college of the University for more than two years except by special permission, application for which must be made through the dean of the college.

<sup>\*</sup>For special students in the several colleges see under such colleges.

<sup>†</sup>Except in the College of Agriculture or the School of Music.

## GRADUATION AND DEGREES

### GRADUATION

The candidate for a degree must complete all the subjects prescribed for graduation in his course, and when, in doing this, he does not gain the necessary one hundred and thirty hours of credit he must make up the deficiency by electing other subjects.

The combinations of studies under which a student may graduate are too numerous to describe; they are given to some extent under the separate colleges and schools.

Examinations are held as often as in the judgment of the instructor the necessities of the work require. Examinations are regularly given at the close of each semester, on the work of the semester, in all subjects except those the character of which renders examination unnecessary.

## BACHELOR'S DEGREE

The bachelor's degree is conferred upon any student who satisfactorily completes the course of study described under one of the various colleges and schools, and does either the first three years, or the last year, of his work in residence at the University. If the student is in residence at the University for one year only that year's work must be taken in the college from which the degree is expected. No person will be recommended for a degree by the Faculty of any college in the University unless he has been a regularly registered student in that college for at least one year. A candidate for a bachelor's degree must pass in the subjects marked prescribed in his chosen course, and must conform to the directions given in connection with that course in regard to electives. In the College of Literature and Arts, of Science, and of Agriculture, credit of 130 hours is required for graduation. In the College of Engineering, in the College of Law, and in the Schools of Music and Library Science the candidate must complete the course of study as laid down. The number of hours required includes, for men, five in military drill and tactics and two in physical training, and for women, three in physical training. Men excused from the military requirements and women who do not take courses in physical training, must elect instead an equivalent number of hours in other subjects.

In all cases in which a thesis is required<sup>1</sup>, the subject must be announced not later than the first Monday in November, and the completed thesis must be submitted to the dean of the proper college by June 1. The work must be done under the direction of the professor in whose department the subject belongs, and must be in the line of the course of study for which a degree is expected. The thesis must be presented upon regulation paper, and is deposited in the library of the University.

A student who has already received one bachelor's degree may receive a second bachelor's degree, provided that all specified requirements for both degrees be fully met, and provided also that the course offered for the second degree includes at least 30 semester hours not counted for the first degree.

- 1. The degree of Bachelor of Arts is conferred on those who complete a course in the College of Literature and Arts, or certain courses in the College of Science.
- 2. The degree of Bachelor of Science is conferred on those who complete a course in the College of Engineering or of Agriculture. This degree is conferred on a graduate of the College of Science who completes a course in ceramics and may be conferred on graduates from other courses in this college on recommendation of the Faculty, as announced on pp. 88 ff.
- 3. The degree of Bachelor of Laws is conferred on those who complete the course in the College of Law.
- 4. The degree of Doctor of Medicine is conferred on those who complete the course in the College of Medicine.
- 5. The degree of Bachelor of Library Science is conferred on those who complete the course in the School of Library Science.
- 6. The degree of Bachelor of Music is conferred on those who complete one of the courses in the School of Music.
- 7. The degree of Graduate in Pharmacy is conferred on those who complete the course in the School of Pharmacy.
- 8. The degree of Doctor of Dental Surgery is conferred on those who complete the course in the College of Dentistry.

<sup>&</sup>lt;sup>1</sup>See requirements for graduation in the various colleges.

#### UNIVERSITY HONORS

The University gives public official recognition to such students as attain a high grade of scholarship, by the following system of honors:

Preliminary Honors are assigned on the completion of the sophomore year. The number of persons to whom honors are awarded may not exceed one-tenth of the membership of the sophomore class. The basis of assignment is the scholarship of the student during the freshman and sophomore years. Preliminary Honors afford an opportunity for sophomores to secure recognition for high scholarship without waiting for graduation. A condition or a failure disqualifies a student for receiving these honors.

Final Honors are assigned on graduation. The basis for the assignment is the scholarship of the student during the junior and senior years. Not more than one-tenth of the senior class may receive such honors. Final Honors are given to seniors in recognition of high scholarship, the terms being designed especially to favor students whose preparatory education has been so imperfect as to prevent them from receiving preliminary honors. A condition or a failure received in the junior or the senior year disqualifies a student for receiving Final Honors.

Special Honors are awarded at the close of the senior year. No student may receive such honors who has not completed, before the beginning of his senior year, at least twenty hours' work in the subject, or group of allied subjects, in which the honors are proposed; he must complete thirty hours' work in the same subject or group of allied subjects, by the end of his senior year, do such other work as the professor in charge may assign, and must prepare an acceptable thesis. Special honors are planned for especially brilliant students who prefer to concentrate their efforts upon a special course. A student may be a recipient of both final and special honors. No student is eligible for special honors, who, during the period in which he is a candidate for the same, has received a grade of less than eighty-five per cent. in any subject.

The names of all students receiving honors appear in the University catalog.

### CONTESTS AND PRIZES

#### MILITARY DECORATIONS

Bronze medals typical of the University and its Military Department are awarded by the University to the members of the

Infantry Company, Artillery and Signal Detachments which shall score the greatest number of points at the annual competitive drill, held at some time between May 15 and May 31. The members of the company rifle team making the highest score at gallery target practice are also awarded medals. The medals so awarded become the permanent property of recipients. A complete roster of the winning organizations is published in the University catalog for the following year.

## THE HAZELTON PRIZE MEDAL

Captain W. C. Hazelton provided in 1890 a medal, which is awarded, at a competitive drill held at some time between May 15 and May 31, to the best drilled student. Each competitor must have been in attendance at the University at least sixteen weeks of the current college year; must not have had more than four unexcused absences from drill; and must present himself for competition in full uniform.

The award is made for excellence in:

- I. Erectness of carriage, military appearance, and neatness.
- 2. Executon of the school of the soldier, without arms.
- 3. Manual of arms, with and without numbers.

The name of the successful competitor is published in the University catalog for the following year. He is given a certificate setting forth the facts, and may wear the medal until the fifteenth day of May following, when he must return it for the next competition.

#### UNIVERSITY GOLD MEDAL

The Board of Trustees provides annually a gold medal which is to be awarded at the annual competitive drill to be held near the close of the year, to the best drilled student. Each student must have matriculated in this University and must have completed one semester's work in Military I with a grade of not less than 90, and three semesters' work in Military 2 with a grade of not less than 95; and he must have an average standing of not less than 85 per cent. in all of his other studies for the preceding semester, which standing shall be determined by the dean of his college. The name of the winner is published in the University catalog for the following year. The reward is made for excellence in the same details as in the Hazelton contest.

#### DEBATING AND ORATORY

This University engages yearly in four intercollegiate debates, the teams for which are chosen in a series of competitive preliminaries to which all students are eligible. Prizes amounting to Three Hundred Dollars are provided for the twelve men who make up these teams and through the generosity of Mr. William B. McKinley a gold watch-fob is given to every speaker who represents the University either in debating or in oratory.

THE CENTRAL DEBATING CIRCLE OF AMERICA is an association formed by the universities of Illinois, Iowa, Minnesota, Nebraska, and Wisconsin. It holds a debate at each university on the Friday evening next preceding the opening of the holiday recess.

THE STATE UNIVERSITY DEBATING LEAGUE consists of the state universities of Illinois, Indiana, and Ohio. Under its auspices three debates are held upon the second Friday in March, each university sending out an affirmative and a negative team.

THE NORTHERN ORATORICAL LEAGUE, consisting of Northwestern University, Oberlin College, and the state universities of Illinois, Iowa, Michigan, Minnesota, and Wisconsin hold an annual contest in May. The contest for 1909 will be held at this University. The winner receives the Lowden testimonial of One Hundred Dollars and the speaker awarded second place, Fifty Dollars. The Illinois representative is selected in a competitive contest open to all undergraduates. Prizes of Fifty and Twenty-five dollars are awarded by the University to the winners of first and second places respectively, in the local contest.

THE ILLINOIS COLLEGE AND UNIVERSITY SUFFRAGE CONTEST, endowed by Mrs. Elmina Springer, is held under the auspices of the Illinois Equal Suffrage Association. It is open to one representative from any institution of collegiate rank within the state. First and second testimonials of one hundred dollars and fifty dollars, respectively, are awarded. The local contest is open to any student who has been in attendance here a least one full year, and who is a candidate for a Bachelor's or a Master's degree.

THE INTERCOLLEGIATE PEACE Association holds an annual state and inter-state oratorical contest to which this University is eligible. Orations must be upon some phase of the peace question. Cash prizes are offered in the local, as well as in the state and inter-state contests.

A Freshman-Sophmore Debate and an Inter-Society De-CLAMATION CONTEST are held under the management of the Oratorical Association. Delta Sigma Rho is an honorary fraternity whose membership is confined to University debaters and orators. Chapters have been formed in many of the state universities of the Middle West.

#### INTERSCHOLASTIC ORATORICAL PRIZE

A medal of the value of twenty dollars, and two of the value of ten dollars each, are offered annually by the University to the high schools of the state for the best oration delivered in a competitive contest between their representatives. This contest takes place in the spring at the time of the interscholastic athletic meet.

## THE BRYAN PRIZE

In 1898 Mr. William Jennings Bryan gave to the University two hundred and fifty dollars. From the interest of this sum a prize of twenty-five dollars is offered biennially for the best essay on the science of government. The contest is open to all matriculated undergraduate students. The essays may not be less than three thousand, nor more than six thousand, words in length, and must be left at the President's office not later than the second Wednesday in May. The prize was offered for the first time in 1901. The latest date on which essays may be submitted in 1909 is May 12.

## UNDERGRADUATE SCHOLARSHIPS

(For information more in detail concerning these scholarships, apply to W. L. Pillsbury, Registrar, Urbana).

## COUNTY SCHOLARSHIPS

A law passed by the General Assembly of the State of Illinois at the session of 1905 provides that there may be awarded annually to each county of the state one scholarship. The holder thereof must be at least sixteen years of age, and a resident of the county to which he is accredited. He is entitled to free tuition in other than the preparatory and professional schools of the University.

A competitive examination under the direction of the president of the University is held at the county court house in each county of the state upon the first Saturday of June in each year by the county superintendent of schools upon such branches of study as the president of the University may deem best. Questions for such examinations are furnished to the county superintendents of schools prior to such examinations.

Having passed the examination successfully the candidate must then meet in full the requirements for admission to the freshman class and register the following September. In case the scholarship in any county is not claimed by a resident of that county the President of the University may fill the same by appointing some candidate, resident of another county, who is eligible therefor.

A student holding a scholarship who shall make it appear to the satisfaction of the President of the University that he requires leave of absence for the purpose of earning funds to defray his expenses while in attendance, may, in the discretion of the President, be granted such a leave of absence, and may be allowed an extension of his scholarship for a period not exceeding six years from the commencement thereof.

The examination is held the first Saturday in June of each year.

Any person, whether a candidate for a scholarship or not, may be examined for admission to the University at this scholarship examination.

#### GENERAL ASSEMBLY SCHOLARSHIPS

The same act by which the county scholarships described above were established also provides that each member of the General Assembly may nominate annually one eligible person from his district for a scholarship in the University granting the same privilege as the county scholarships, and to be conferred under the same conditions with regard to examination, entrance requirements, and registration.

#### SCHOLARSHIPS IN CERAMICS

The University offers annually to each county in the state, one scholarship, awarded by the Trustees of the University, upon the nomination of the Clay Workers' Association, to applicants who intend to pursue any of the regular courses in ceramics. These scholarships are good for four years and relieve the student from payment of the matriculation and incidental fees.

The applicant must meet in full, before entering, the requirements for admission to the freshman class.

In case the scholarship in any county is not claimed by a resident of that county the President of the University may fill the same by appointing some candidate, resident of another county, who is eligible to a vacancy.

## SCHOLARSHIPS IN AGRICULTURE AND HOUSEHOLD SCIENCE

The University offers every year to each county in the state, except Cook and Lake, and to each of the first ten congressional districts, one scholarship for prospective students of Agriculture in the College of Agriculture and one for prospective students of

Household Science in the College of Literature and Arts, the College of Science, or the College of Agriculture.

Appointments are made by the Trustees of the University to scholarships in Agriculture upon the recommendation of the executive committee of the Illinois Farmers' Institute, and to scholarships in Household Science upon the recommendation of the County Domestic Science Association. Young men under sixteen years of age and young women under eighteen years of age and those who have already attended the University are not eligible. Acceptable candidates, residents of counties or districts for which appointments have been made, may be assigned to counties or districts not yet represented.

The scholarships are good for two years and relieve the holders from the payment of the matriculation fee, \$10.00, and the incidental fee, \$24.00 a year. The term of a scholarship may be extended four years, if, before it expires, the holder satisfies in full the requirements for admission to the freshman class of the college in which he is enrolled.

## MILITARY SCHOLARSHIPS

Students who have gained three hours in class room military instruction and four in drill practice, are eligible for appointment as commissioned officers of the regiment or battery. Those attaining this rank may be awarded special scholarships, good for one year, and equal in value to the University incidental fees for the same length of time.

# FELLOWSHIPS AND GRADUATE SCHOLARSHIPS See under Graduate School in Part II.

#### BENEFICIARY AID

EDWARD SNYDER DEPARTMENT OF STUDENTS' AID

In 1899 Edward Snyder, Professor of the German language and literature, *emeritus*, gave the University the sum of \$12,000, to be lent to worthy students to enable them to finish their courses in the University.

This fund is available for junior, senior, and graduate students who need aid to remain and complete their work. The minimum loan made is fifty dollars (\$50), and the maximum loan is one hundred and fifty dollars (\$150) to a junior, and two hundred dollars (\$200) to a senior or graduate student. Notes of hand are taken for the amount of the loans, with 5 per cent. interest. The

maximum time limit is three years for juniors, and two years from the ensuing thirtieth day of June for seniors and graduates.

Loans are made to matriculated students only who have attained at least the rank of full juniors, who have been in residence at the University at least one year, who are at the time students in residence at the University, and who have declared their intention to graduate.

In recommending loans preference is given to those students who are most advanced in their University work, who have shown themselves most assiduous and successful in their studies, and have shown habitual economy in life. No distinction is made on account of sex or course of study. A loan wil not be recommended for any student who is believed to have been financially or morally delinquent in any respect.

Applications for loans must be made in writing and addressed to Vice-President T. J. Burrill, Chairman Loan Fund Committee.

## CLASS OF 1895 LOAN FUND

This is a fund of \$100.00 established by the class of 1895, to be lent to needy and deserving students. According to the conditions of the gift, fifty dollars are to be lent\_annually, and the benefit of the fund is open only to students who, at the time of application are members of the freshmen class only. No person may receive the benefit of the fund more than four years. The loan bears interest from the time the recipient leaves the University, and is due, one-half in five years, and one-half in six years, after matriculation. The management of the fund is in charge of the Council of Administration.

Application for loans should be made in the same manner as for the Snyder Fund.

## ASSOCIATIONS, SOCIETIES, AND CLUBS

## HOSPITAL ASSOCIATION

The Hospital Association is an organization of students to provide a fund for hospital care in case of sickness. The members of the association pay a fee of fifty cents each semester and the fund thus raised is used to pay the hospital expenses of members who may need such care. The fund is under the control of a committee of the Council, and during the past five years the association has rendered valuable aid to a considerable number of members. Students are advised to join the association.

### LITERARY SOCIETIES

The ADELPHIC, IONIAN, and PHILOMATHEAN societies for men, and the ALETHENAL, ATHENEAN, and ILLIOLA for women, meet weekly, on Fridays, throughout term time.

### THE CHRISTIAN ASSOCIATIONS

The Young Men's and Young Women's Christian Associations have come to occupy a prominent place in the University life. Both are affiliated with the World's Student Christian Federation.

Eight hundred and fifty men now belong to the Young Men's, and four hundred and twelve women to the Young Women's Association. Each association employs for full time a general secretary.

The Association Houses furnish free for the use of all students reading room, library, parlors, piano, magazines and papers, correspondence tables, telephone, and other conveniences. The new Young Men's Christian Association building contains also lounging and game rooms, bowling alleys, and dormitories to accommodate about eighty persons.

Religious meetings for men are held on Sunday afternoons; for women on Thursday afternoons; and for both men and women on Monday evenings. There are frequent meetings for the promotion of social intercourse and good fellowship. Courses in systematic Bible study and in modern missions are offered. Within the year eight hundred and fifty men and approximately three hundred women have enrolled in these courses. A most helpful feature of the work is that in the interest of new students at the opening of the college year. Desirable rooms and boarding places are found and posted for reference at the Association House. Representatives of the Association meet the trains, assist students in finding satisfactory locations, and endeavor to make them feel at home. The employment bureau helps to find work.

A copy of the Students' Hand-Book, containing a map of the cities, and giving information about Urbana and Champaign, the University, and the various college organizations and activities, will be sent free to prospective students.

For this Hand-Book, or for further information, address the General Secretary of either Association.

## CLUBS AUXILIARY TO COURSES OF STUDY

The Agricultural Club meets weekly to discuss topics of theoretical and practical interest to students of agriculture. All students connected with the University are eligible to membership.

The American Institute of Electrical Engineers, Urbana Section, consists of local members, associates and "students" of the American Institute of Electrical Engineers who have organized a section for the presentation of original papers, and for the discussion of the regular Institute transactions, of which advance copies are received. All interested in electrical engineering are invited to join the Section, which holds meetings each month at the Electrical Laboratory.

The Architects' Club meets once in two weeks to consider current topics of architectural interest and subjects connected with the study of architectural history. All students pursuing architectural studies are eligible to membership. This club is a member of the Architectural League of America, and contributes to its annual exhibition in the principal cities of the United States.

The Biological Theory Club meets on alternate Monday evenings for papers, addresses, and discussions on subjects in theoretical biology. Its membership is composed of instructors in biological subjects in the Colleges of Science and Agriculture.

The Ceramic Club is composed of the instructors and advanced students of the ceramic courses. It holds weekly meetings for the discussion of abstracts from current literature and of assigned topics.

The Chemical Club meets fortnightly and is open to all students in the chemical department. Its purpose is to foster a general interest in all subjects connected with the field of Chemistry.

The University of Illinois Section of the American Chemical Society holds monthly meetings for the presentation of papers on Chemical researches conducted at the University. All persons interested in Chemistry are eligible for membership and all members receive the Journal of the American Chemical Society, Chemical Abstracts and the Journal of Industrial and Engineering Chemistry.

The Civil Engineers' Club meets alternate Friday evenings for the discussion of topics of engineering interest, by members of the club or by practicing engineers. Students in civil or municipal and sanitary engineering are eligible to active membership.

The Commercial Club is composed of students in the courses of training for business. It meets on alternate Tuesday evenings to hear addresses from practical business men and to discuss commercial topics.

The Electrical Engineering Society is a student organization open to any student interested in electrical work. Its primary object is to bring together all electrical students for the discussion of topics of current interest. The society maintains a technical reading room in the electrical laboratory.

The English Club is composed of members of the Faculty, and of students who have done especially good work in English. The work of the club is confined to the study of recent writers of fiction and of poetry. The membership is limited to thirty. Meetings are held on the second Monday of each month.

Le Cercle Français includes students who have had at least one year's work in French. The club meets twice a month throughout the year. Its proceedings are conducted in French, the object being to supplement the work of the class room by the practical handling and understanding of the language.

The Geological Journal Club is composed of members of the staff of the Geological Survey and of advanced students and instructors

of this department. Weekly meetings are held.

Der Deutsche Verein includes students who have pursued the study of German for two years, and others who have a speaking knowledge of the language. Its proceedings are conducted entirely in German; meeting are held twice a month, and programs of a literary, conversational, and musical nature are presented.

The History Club, consisting of instructors and advanced stu-

dents, meets monthly.

The Household Science Club, which meets on alternate Wednesdays, is intended to foster general interest in household science. Its meetings are devoted to a discussion of topics relating to that subject.

The Komenian Society was organized in 1908 by the Bohemian students of the University. Its purpose is to promote the intellectual, social, and moral culture of those connected with it, along the lines of čech language, literature, and thought in general. Meetings are held every other Saturday, and they alternate Literary and Seminar. The literary meetings deal with the life of the Bohemian in this country; the seminar sessions are devoted to a study of the Bohemian language and literature. Discourse in the Bohemian tongue is encouraged.

The Library Club. Any member of the faculty of the Library School or of the library of the University of Illinois, or any student in the Library School may become a member of the Library Club. There are six regular meetings each year, held on the first Wednesday of October, November, December, February, March, and April.

The Mathematical Club is open for membership to the instructors and students of mathematics at the University. It meets once in two weeks to discuss questions of interest in pure and applied mathematics.

The Mechanical Engineering Club meets on the second and fourth Friday evenings of each month. All students pursuing mechanical engineering studies are eligible to membership. Papers relating to subjects of interest to members are presented and discussed at each meeting.

The Musical Clubs. These are described under the School of Music.

The Oratorical Association is composed of students interested in public speaking. Membership may be secured upon application and the payment of a yearly fee. The Association manages an entertainment course, including the various debates and other contests, to which members are admitted free of charge.

The Pedagogical Institute. See under School of Education.

The Pen and Brush Club was formed to promote the consistent study of the technical forms of art, and to crystalize the interest in drawing and painting. The members have a sketch class, and every month give a public lecture on some subject of interest to artists and art students. Twice a year a public exhibition is given, and every month the members have a private exhibition at which are displayed drawings submitted during the month. The Club requires members in good standing to submit two drawings a month. All upperclassmen sufficient by proficient in drawing are eligible for membership.

The Political Science Club is composed of the members of the corps of instruction in history, economics, and law, and of such students of junior and senior standing as make a record for marked excellence in work in these departments. It meets once a month.

The Scandinavian Club was organized in 1900 for the purpose of bringing together all students having knowledge of at least one of the Scandinavian languages. Meetings are held during the academic year, at which subjects connected with the northern countries, especially with their literature, are discussed.

The Scribblers' Club was organized in 1906 to afford the members an opportunity to gain facility in writing of an original sort, and ability in criticism. It publishes a college magazine, The Scribbler.

The Society of Electrical Engineers has been organized to include students in electrical engineering or those specially interested in the work. They have meetings alternating with those of the Society of Mechanical Engineers.

El Circulo Español is composed of Latin-American students and of native students interested in the Spanish language and literature. The proceedings of the club are conducted in Spanish. It offers a meeting ground for native and foreign students to exchange information concerning the commerce and literature of their respective coutries. Meetings are held twice a month.

The Zoological Club is composed of advanced students and instructors in the zoological and physiological departments, together with such other biological instructors and advanced students as are interested in its subjects. Its sessions are devoted to the presentation and discussion of abstracts of recent biological literature and of the results of investigation by the members of the club. It meets weekly in Natural History Hall.

# **EXPENSES**

## **FEES**

All University fees shall be paid each semester in advance. The regular fees for the current semester must be paid before the student is entitled to submit his study list for approval, or to enter classes. Second semester fees must be paid before the close of the first semester, and every student who has not paid his fees before the opening of the second semester is excluded from the University until the fees have been paid.

Literary, Technological, Scientific, and Agricultural Departme	ents
MATRICULATION FEE. Each student not holding a scholarship,	
upon satisfying the requirements for admission to the University, pays the matriculation fee of\$1	0.00
DIPLOMA FEE, payable before graduation, is	
INCIDENTAL FEE. All students, except those holding scholar-	
ships, pay, each semester, an incidental fee of	2.00
TUITION FEE. Students "conditioned" on entrance requirements, and "special" students, except special students hold-	
ing scholarships, pay each semester, a tuition fee of	7.50
No deduction is made on account of absence in any course,	ex-
cept in case of protracted illness.	
LARORATORY FEES. Each student working in laboratories, or in drafting or engineering classes, is required to pay a fee vary from 50 cents to \$10.00, to pay for chemicals and apparatus u and for any breakages or damages.	ing
LISTENER'S FEE. Persons not enrolled in the University who	
attend classes as listeners, or for credit, pay for each course, each semester	7.50
course, each semester	7.50
School of Music	
College Courses	
A matriculated student, enrolled in the School of Music only, pays each semester:	
If his home is in Illinois, the incidental fee\$1	2.00

If his home is not in Illinois, full tuition fees in voice, piano, violin, or other stringed instrument, for two lessons a week
A non-matriculated student, enrolled in another department
of the University, pays the fees of that department and
the lower tuition feesas above
Preparatory Courses
A student enrolled in the School of Music only pays each semester full tuition fees in voice, piano, violin, or other stringed instrument, any band instrument and public
sons a week 15.00
For one lesson a week
A student enrolled in another department of the University pays the fees of that other department and lower fees in voice, piano, violin, or other stringed instrument, any band instrument, and public school methods, for two lesschool methods, for two lesschool methods, for two lessons a week
For one lesson a week
Additional hours at same rates.  Special students, taking music only, may enter classes in Physical Training on paying each semester
College of Law
Students of the College of Law, upon satisfying the requirements for admission, pay the matriculation fee of\$10.00

Tuition fee, each semester
mester, an additional fee of
for each Law course
College of Medicine
Matriculation fee, paid each year\$ 5.00
General ticket, freshman and sophomore years 120.00
General ticket, junior and senior years
Laboratory deposit, junior year 5.00
Dissections, per part and County Hospital ticket, each 5.00
Maternity Hospital fee, senior year 15.00
Graduation fee
College of Dentistry
First Year (Freshman)
Matriculation fee General tuition
Histological laboratory fee
Dissecting fee (one part)
Chemical laboratory fee
\$155.00
Second Year (Junior) Matriculation fee
General ticket
Histological laboratory fee
Dissecting fee (one part)
Chemical laboratory fee
Third Year (Senior) \$155.00
Matriculation fee
General ticket
Final examination fee
\$155.00 School of Pharmacy
20
Matriculation fee, paid but once\$ 5.00 Tuition fee, shorter course, each year
Tuition fee, longer course, each year
Laboratory deposit, shorter course, each year 10.00
Laboratory deposit, longer course, each year 15.00
Diploma fee 5.00

## AVERAGE ANNUAL EXPENSES

The following are for students (except law and graduate students) attending at Urbana, estimated average annual expenses, exclusive of books, clothing, railroad fare, laboratory fees, if any, and small miscellaneous needs:

¹Semester fees	24.00	to S	\$ 24.00
Room rent for each student (two in room)	36.00	66	72.00
Table board in boarding houses and clubs	126.00	66	144.00
Washing	18.00	66	24.00

In addition to the above, freshmen pay a matriculation fee of \$10.00, and the men are required to buy a cadet uniform, which costs \$15.00. Freshmen engineering students will need to buy a set of drawing instruments at a cost of about \$18.00. Other necessary expenses will need to be taken into consideration. Six hundred and twenty-eight scholarships are offered each year. These cover the holder's incidental fees and the matriculation fee. For all the necessary expenses of the year, the average student is not likely to live for less than \$300.00 or \$350.00.

## BOARD

The University does not furnish board. There are a large number of suitable private places in Urbana and Champaign, within easy walking distance of the University, where students can obtain table board and rooms. There are several students' clubs at which the cost of meals is three and a half to four dollars a week. The Young Men's and Young Women's Christian Associations of the University will aid new students in procuring rooms and boarding places.

<sup>&</sup>lt;sup>1</sup>Students of law and music, special students, and pupils of the Academy must make needed changes in the amount given for "semester fees."



# PART II THE COLLEGES AND SCHOOLS



# COLLEGES OF LIBERAL ARTS

# **FACULTY**

EDMUND JANES JAMES, Ph.D., LL.D., PRESIDENT

COLLEGE OF LITERATURE
AND ARTS

COLLEGE OF SCIENCE EDGAR J. TOWNSEND, Ph.D., Dean

EVARTS B. GREENE, Ph.D., Dean; GEORGE HENRY MEYER, A.M., Assistant Dean

In Art and Design-

EDWARD JOHN LAKE, B.S., Assistant Professor (On leave) ISABEL JONES, Instructor.
EDWIN VICTOR LAWRENCE, Instructor
MARY MINERVA WETMORE, Instructor
CHARLES FABENS KELLY, A.B., Instructor

In Classics-

HERBERT JEWETT BARTON, A.M., Professor, Latin CHARLES MELVILLE Moss, Ph.D., Professor, Greek HAMILTON FORD ALLEN, Ph.D., Associate

In Modern Languages-

German

JULIUS GOEBEL, Ph.D., Professor
OTTO EDUARD LESSING, Ph.D., Associate Professor
GEORGE HENRY MEYER, A.M., Assistant Professor
NEIL CONWELL BROOKS, Ph.D., Assistant Professor
DAISY LUANA BLAISDELL, A.M., Instructor
JAMES ALBURN CHILES, A.M., LL.B., Instructor
CHARLES MARSHALL POOR, Ph.D., Instructor
JOSEF WIEHR, Ph.D., Instructor
ERNST OTTO ECKELMANN, Ph.D., Instructor

Romance Languages—

RAYMOND WEEKS, Ph.D., Professor THOMAS EDWARD OLIVER, Ph.D., Professor DAVID HOBART CARNAHAN, Ph.D., Associate Professor ARTHUR ROMEYN SEYMOUR, Ph.D., Associate EDWARD JOSEPH FORTIER, A.B., Associate FLORENCE NIGHTINGALE JONES, Ph.D., Instructor LOUIS IMBERT, A.M., Assistant ARTHUR LESLIE OWEN, A.M., Assistant

# In English-

DANIEL KILHAM DODGE, Ph.D., Professor THOMAS ARKLE CLARK, B.L., Professor CHESTER NOVES GREENOUGH, Ph.D., Professor, Chairman EDWARD FULTON, Ph.D., Associate Professor EDWARD CHAUNCEY BALDWIN, Ph.D., Assistant Professor HARRY G. PAUL, A.M., Assistant Professor STUART PRATT SHERMAN, Ph.D., Assistant Professor FRANK WILLIAM SCOTT, A.M., Associate THACHER HOWLAND GUILD, A.M., Associate ERNEST MILTON HALLIDAY, A.B., LL.B., Associate HARRIE STUART VEDDER JONES, Ph.D., Associate MARTHA JACKSON KYLE, A.M., Instructor EARL LOCKRIDGE BRADSHER, A.M., Instructor WALTER CLARK PHILLIPS, A.M., Instructor STEPHEN FAUNCE SEARS, A.M., Instructor JACOB ZEITLIN, Ph.D., Instructor BERNICE MARGARET BRADFORD, A.M., Assistant MRS. MARY E. FAWCETT, A.B., Assistant SADA ANNIS HARBARGER, A.B., Assistant ARTHUR RAY WARNOCK, A.B., Assistant ARTHUR JERROLD TIETJE, A.B., Assistant ALBERT HARTMAN DAEHLER, A.B., Assistant VIDA LUCILE COLLINS, A.B., Assistant GEORGE RHINE JACKSON, A.B., Assistant JOHN CLARK JORDAN, A.B., Assistant WINIFRED ALMINA PERRY, A.B., Assistant

# In History-

EVARTS BOUTELL GREENE, Ph.D., Professor
GUY STANTON FORD, Ph.D., Professor
CLARENCE WALWORTH ALVORD, A.B., Assistant Professor
LAURENCE MARCELLUS LARSON, Ph.D., Assistant Professor
LOUIS JOHN PAETOW, Ph.D., Associate
THEODORE CALVIN PEASE, A.M., Assistant
SUSAN MARTHA REED, A.M., Assistant

## In Economics-

DAVID KINLEY, Ph.D., Professor

MAURICE HENRY ROBINSON, Ph.D., Professor, Industry and Transportation

ERNEST RITSON DEWSNUP, M.A., Professor, Railway Administration

NATHAN AUSTIN WESTON, Ph.D., Assistant Professor John Christie Duncan, Ph.D., Assistant Professor Simon Litman, Ph.D., Associate John Giffin Thompson, Ph.D., Instructor John Ker Towles, Ph.D., Instructor Joel Moore, A.B., Assistant

## In Political Science-

James Wilford Garner, Ph.D., Professor Thomas Reed Powell, A.B., LL.B., Associate

# In Sociology-

EDWARD CAREY HAYES, Ph.D., Professor

# In Philosophy-

ARTHUR HILL DANIELS, Ph.D., Professor Frank Chester Becker, A.B., Instructor

# In Psychology-

STEPHEN SHELDON COLVIN, Ph.D., Professor JOHN WALLACE BAIRD, Ph.D., Assistant Professor FRED KUHLMANN, Ph.D., Instructor

## In Education-

STEPHEN SHELDON COLVIN, Ph.D., Acting Professor WILLIAM CHANDLER BAGLEY, Ph.D., Professor Edwin Lee Norton, Ph.D., Instructor

# In Astronomy-

JOEL STEBBINS, Ph.D., Assistant Professor Frank Walker Reed, Ph.D., Instructor

# In Mathematics-

SAMUEL WALKER SHATTUCK, C.E., Professor EDGAR JEROME TOWNSEND, Ph.D., Professor GEORGE ABRAM MILLER, Ph.D., Professor ERNST JULIUS WILCZYNSKI, Ph.D., Associate Professor HENRY LEWIS RIETZ, Ph.D., Assistant Professor CHARLES NELSON HASKINS, Ph.D., Assistant Professor John Wesley Young, Ph.D., Assistant Professor Arthur Robert Crathorne, Ph.D., Associate Ernest William Ponzer, M.S., Instructor Lewis Irving Neikirk, Ph.D., Instructor Robert Lacy Borger, Ph.D., Instructor Ernest Barnes Lytle, Ph.D., Instructor Gustav Eric Wahlin, Ph.D., Instructor Clyde Wilbur Emmons, A.B., Assistant Hugh Pratt Kean, A.B., Assistant George Ernest Carscallen, A.B., Assistant William Wells Denton, A.B., Assistant Chester Hume Forsyth, A.B., Assistant John H. Minnick, M.S., Assistant

## In Physics-

Albert Pruden Carman, A.M., D.Sc., Professor Charles Tobias Knipp, Ph.D., Assistant Professor Floyd Rowe Watson, Ph.D., Assistant Professor William Frederick Schulz, E.E., Ph.D., Assistant Professor Elmer Howard Williams, A.M., Instructor Waldemar Matthaeus Stempel, A.M., Instructor William Warren Stifler, A.M., Assistant Otto Stuhlmann, Jr., A.B., Assistant Jacob Garrett Kemp, A.B., Assistant Edward Chapman Converse, A.B., Assistant

# In Chemistry-

WILLIAM ALBERT NOYES, Ph.D., Professor and Director Samuel Wilson Parr, M.S., Professor Edward Bartow, Ph.D., Professor Richard Sydney Curtiss, Ph.D., Assistant Professor Clarence William Balke, Ph.D., Associate Willis B. Holmes, Ph.D., Associate Edward Wight Washburn, Ph.D., Associate Samuel C. Clark, B.S., Instructor George McPhail Smith, Ph.D., Instructor Helen Isham, Ph.D., Instructor Grinnell Jones, Ph.D., Instructor Brainerd Mears, Ph.D., Instructor Burritt Samuel Lacy, Ph.D., Instructor Grant Train Davis, A.B., Assistant

James Austin Coss, B.S., Assistant
John Tilden Nuttall, B.S., Assistant
Clarence George Derick, B.S., Assistant
Paul Edward Howe, A.M., Assistant
Ernest Elisha Gorsline, B.S., Ph.D., Lecturer and Research
Assistant

THOMAS REUBEN ERNEST, A.B., Assistant JAMES EVERETT EGAN, A.B., Assistant LUTHER KNIGHT, M.S., Assistant EARLE KENNETH STRACHAN, B.S., Assistant SAMUEL COSS, B.S., Assistant ARTHUR S. FUNK. B.S., Assistant

# In Geology-

CHARLES WESLEY ROLFE M.S., Professor WILLIAM SHIRLEY BAYLEY, Ph.D., Associate Professor THOMAS EDMUND SAVAGE, M.S., Assistant Professor RUFUS MATHER BAGG, Ph.D., Instructor JOSEPH GLADDEN HUTTON, S.B., Assistant

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## In Ceramics-

CHARLES WESLEY ROLFE, M.S., Director RAY THOMAS STULL, E.M., Instructor JOHN MACBRIDE KNOTE, A.M., Instructor

# In Botany-

THOMAS JONATHAN BURRILL, Ph.D., LL.D., Professor CHARLES FREDERICK HOTTES, Ph.D., Assistant Professor WARD J. MACNEAL, Ph.D., Assistant Professor HENRY ALLAN GLEASON, Ph.D., Instructor CHARLES FRANCIS BRISCOE, A.M., Instructor LEE IRVING KNIGHT, A.B., Assistant JESSIE E. BALDWIN, A.B., Assistant

# In Zoology-

STEPHEN ALFRED FORBES, Ph.D., LL.D., Professor FRANK SMITH, A.M., Associate Professor Amos William Peters, Ph.D., Associate FREDERICK WALTON CARPENTER, Ph.D., Associate CHARLES CHRISTOPHER ADAMS, Ph.D., Associate ALFRED O. Goss, A.B., Assistant Bessie Rose Green, A.B., Assistant Maurice Cole Tanquary, M.S., Assistant

# In Physiology-

JOHN HANCOCK McCLELLAN, Ph.D., Assistant Professor OTIS ORION STANLEY, M.S., M.D., Instructor WILLIAM DOUES ZOETHOUT, Ph.D., Assistant IRWIN WOODWARD BACH, A.B., Assistant

# In Entomology-

JUSTUS WATSON FOLSOM, Sc.D., Assistant Professor Alcandre Arsene Girault, B.S., Assistant

## In Household Science-

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# COLLEGE OF LITERATURE AND ARTS

The purpose of the College of Literature and Arts is to secure for its students a liberal education including both the humanities and the sciences. Students who complete the course receive the degree of Bachelor of Arts. This College is especially adapted to the needs of the following classes of students:

- I. Those who wish to pursue a somewhat general course in the arts and sciences as a basis for later professional or technical studies. It will ordinarily be possible for a good student to arrange his work in such a way as to secure, within six years, a professional or technical degree in addition to that in arts.
- 2. Students who desire to prepare themselves for teaching. Under the modified elective system a student may specialize to a considerable extent in the particular subject which he wishes to teach and may also find time for courses in education and related subjects which are of interest to teachers generally. Such students should, however, as a rule continue their preparation in the Graduate School.
- 3. Students who find it necessary to devote a considerable part of their undergraduate course to specific preparation for some particular calling other than teaching. Such vocational training may be secured at present in the Household Science Course and the Courses of Training for Business (including Journalism). Students

regularly registered for these courses are subject to the general requirements of the College, but must meet also certain special requirements described below.

## ADMISSION

- 1. Applicants for admission to the freshman class in the College of Literature and Arts must be at least sixteen years of age. Such admission may be obtained on certification from a fully accredited high school, by examination, or on certification from some other college.
- 2. Every applicant for admission to the freshman class must offer fifteen units of high school work as defined on page 22. The following units are prescribed in this College and no substitutes are accepted:

AlgebraI <sup>1</sup> / <sub>2</sub>	
English Composition	unit
English Literature2	units
Geometry, plane	
History	unit
Foreign Language3	units

The remainder of the 15 units must be made up from the elective subjects listed on page 23, in the amounts indicated. No subject will be accepted if it is offered in an amount less than the minimum indicated in the table. For full description of subjects accepted for admission, program of examinations, and other details, see pages 24 ff.

## SPECIAL STUDENTS

Persons over twenty-one years of age, not candidates for a degree, may be admitted to classes in the College of Literature and Arts for which they are prepared, on special application to the Dean. Every person desiring admission as a special student in this College must present a written application, accompanied by official certificates, indicating the character and extent of his preparatory work, and showing honorable dismissal from the school last attended. It is the policy of this College to admit as special students only a select group of mature and serious persons who, though unable to meet the formal requirements for entrance, are substantially prepared for work of college grade within their chosen fields. Such students are not matriculated; they pay a tuition fee of seven dollars and a half

a semester, in addition to the regular incidental fee of twelve dollars. No one may enroll in the University as a special student for more than two years, except upon the recommendation of the faculty of the college in which he is enrolled, and the approval of the Council of Administration.

## ADMISSION TO ADVANCED STANDING

After satisfying the entrance requirements for admission to the University, in some one of the ways described, and after matriculating, the applicant for advanced standing may secure advanced standing either by examination or by transfer of credits from some other college or university. For further details relating to transfer of credits and admission to advanced standing see page 38.

# REQUIREMENTS FOR GRADUATION

The only degree given on graduation from this college is that of Bachelor of Arts.

In order to graduate from the University in the College of Literature and Arts, the student must secure credit for 130 hours\* of study including therein the prescribed military and physical training. Every student must take work aggregating at least eight hours of credit in each of the following groups of subjects, according to the conditions described below. The groups are:

- I. English language and literature, including English and rhetoric.
- II. Ancient and modern languages and literatures, including Greek, Latin, Germanic, and Romance languages.
- III. The social sciences, including history, economics, political science and sociology.
- IV. Mathematics and philosophy, including mathematics, education, philosophy, and psychology.
- V. The natural sciences, including astronomy, botany, chemistry, geology, physiology, physics, and zoology.

## CONDITIONS UNDER WHICH STUDENTS MUST TAKE THEIR CHOICE

I. In his freshman year each student must select his course of study from at least three of the five groups mentioned above, and must include in his choice six hours of rhetoric, and eight hours of some one foreign language.

<sup>\*</sup>An hour is one class period a week for one semester, each class period presupposing two hours' preparation by the student, or the equivalent in laboratory, shop, or drawing room.

- 2. In Group II, no credit is given for a part of the work of the beginning year of any foreign language.
- 3. In Group IV, a student who elects mathematics must take at least five hours of it. If a student does not elect mathematics, his election in this group must include work in at least two of the other departments of the group. That is, if he does not take mathematics, he must take either philosophy and psychology, or philosophy and education, or education and psychology. With the exception of mathematics, no subject of this group is open to freshmen.
- 4. No credit is granted in any subject unless the student pursues it for the full time required in the shortest course offered in that subject. For example, if the student elects a course which yields two hours of credit for one semester, he must stay in the class during the semester in order to get any credit at all.
- 5. Every student must secure at least 24 hours of credit in some one subject to be selected by him from the list of major subjects (see page 71). This subject shall be called his major.
- 6. Not more than 40 hours in any one subject may be counted for graduation, excepting when the student is writing a thesis. In this case he may count, in addition to the 40 hours, the hours of the seminar course in which he does his thesis work. In the department of English a student may take 40 hours in addition to Rhetoric 1.
- 7. Students who are candidates for special honors must write theses. Students not candidates for special honors may also write theses, on the approval of the head of the department in which they are doing their major work. Such thesis work will ordinarily be done in connection with the department seminaries and is especially recommended to all students who wish to teach or to engage in graduate work.
- 8. Students who hold scholarships in household science must make this subject their major. They must elect each semester at least four hours in household science, or in subjects required for admission to the household science courses. In their freshman year household science students must elect the following:

First Semester: Physical Training 7, Physiology 6, Rhetoric 1, Foreign Language, Chemistry 1, Household Science 2.

Second Semester: Physical Training 7, Rhetoric 1, Foreign Language, Household Science 1, Chemistry 2 and 3.

They must then elect in regular course and finish by the end of the junior year, Botany 5, Chemistry 13a, 9, and 9c, and an additional five hours in botany or zoology. In order to graduate, household science students must also secure credit for Art and Design I, Architecture 4I, (Color Problems), Architecture 29a and 29b (History of Architecture), and Economics I.

Students in household science must also satisfy the requirements for graduation in the College of Literature and Arts, in so far as these are not covered by the courses above mentioned.

9. Students in the business courses must make economics their major subject. They must supplement the economics with the necessary work in science, materials of commerce, mechanical technology, language, and law, and should follow closely the outlines of the various courses given in full in the special circular on Courses of Training for Business. See also pp. 73 ff.

## **ELECTIVES**

A student may select his studies from as wide a range of subjects as he pleases, restricted only by the requirements that he shall take the minimum amount of work in each of the groups mentioned on page and secure at least 24 hours in some one subject. The special requirements for a major in English or in modern languages are indicated below.

In planning a course of study attention should be given to the sequence of courses in the various departments. Students in upper classes should elect distinctly advanced courses. The following rule will go into effect at the beginning of the academic year 1909-1910:

Seniors who register in courses open to freshmen may receive only one-half of the credit regularly assigned to such courses, unless they have done a sufficient amount of special work to entitle them to full credit. In the latter case the instructor shall certify to the Dean that the special work has been done.

Senior students of high standing are urged to register in the seminary courses offered by the various departments in which they are doing their principal work. The writing of theses in connection with such courses is required of all candidates for special honors. For regulations regarding honors see page

The elective courses open to the students of this College include with a few exceptions, which are clearly indicated, all of those offered by either of the colleges of Liberal Arts. The natural sciences, as well as the humanities, constitute an essential part of the college curriculum. A considerable number of courses in other colleges or schools may also be taken. Some of these are mentioned under General Electives below; those not so mentioned may be

counted for the degree of A. B. only with the approval of the Dean in each case.

## MAJOR ELECTIVES

Economics Household Science

Education Latin

English¹ (including English Mathematics
Literature and Rhetoric) Philosophy
French² Political Science
German³ Psychology
Greek Sociology

History

## ELECTIVES

The credits necessary for graduation, additional to those obtained in the prescribed subjects and the chosen major electives, may be secured from any subjects offered in the University which are approved for this purpose by the Dean of the College. In the department of Art and Design, not more than 20 hours may be counted for the degree of bachelor of arts.

The following subjects in other colleges and schools of the University may also be counted:

Library Science: History of Libraries (Lib. 7); Book-making (Lib. 9); General Reference (Lib. 12); Public Documents (Lib. 13); Library Extension (Lib. 14). The total credit allowed in Library Science will not ordinarily exceed 14 hours. The course in General Reference (Lib. 12) is of special value to students in the College of Literature and Arts.

Music: History of Music (Mus. 1).

Physical Training: Credit in Physical Training may be counted for the degree of A.B. for an amount not exceeding five semester hours.

For courses in the College of Law, see page 338.

For courses in the College of Engineering, see page 292.

# COURSE OF INSTRUCTION

## FIRST YEAR

Fifteen to eighteen hours a week, including rhetoric (Rhet. 1) and some foreign language, must be chosen each semester. Every

<sup>&</sup>lt;sup>1</sup>A major in English must include 24 hours in addition to English 1 and Rhetoric 1. Of these 24 hours at least 8 must be in English Literature and at least 4 in Rhetoric.

<sup>2</sup>A major in French must include 24 hours in addition to French 1.

<sup>3</sup>A major in German must include 24 hours in addition to German 1 and 3.

freshman student must include in his course of study at least three of the five groups mentioned on page

Military science and tactics (Military 1 and 2) are required of all male students. Drill extends through the freshmen and sophomore years, and tactics through the second semester of the freshman year. This requirement applies also to first year special students.

Physical training is required of all freshmen, men and women, two hours for men and three hours for women. (Phys. Tr. 1 and 3 for men; 7 and 9 for women).

The following subjects are open to freshmen:

## First Semester:

- I. English 1 (4); Rhetoric 1 (3) and 7 (3).
- II. French I (4) or 2 (4); German I (4) or 3 (4) or 4 (4); Greek I (4) or 5 (4); Latin I (4) or 2 (4); Italian I (3); Spanish I (4).
- III. Mathematics 2 (3) and 4 (2).
- IV. Economics 7 (2) and 261 (3); History 1 (3).
  - V. Astronomy I (3); Botany 2 (5), 4 (5) and II (5); Chemistry I<sup>1</sup> (5); Zoology IO<sup>1</sup> (5).

## Second Semester:

- I. English 2 (4); Rhetoric 1 (3) and 7 (3).
- II. French I (4) or 2 (4); German 3 (4) or 4 (4) or 5 (4) or 6 (4); Greek 2 (4) or 6 (4); Latin I (4) or 2 (4); Spanish I (4); Italian I (3).
- III. Mathematics 6 (5).
- IV. Economics 22 (2) and 261 (3); History 1 (3) and 11 (3).
- V. Astronomy 4 (5); Botany I (5) or 17 (3); Chemistry I<sup>1</sup> (5), 2 (2), and 3 (3); Entomology 3 (5); Physical Geography (Geol. 8) (3); Zoology 2 (5), 10<sup>1</sup> (5), 17b (2); Geology 10 (5).

The following subjects, not included in any of the above groups, are also open to freshmen:

## First Semester:

Art and Design 1 (2 or 3)

Household Science 2 (2)

Library Science 12 (2)1

## Second Semester:

Art and Design 2 (2)

Household Science 1 (3)

Latin 13 (1)

Library Science 121 (2).

<sup>&</sup>lt;sup>1</sup>May be taken in either semester, but not in both.

## COURSES IN BUSINESS ADMINISTRATION

Courses in economics, commerce, and industry are offered in combination with courses in language, law, science, and mechanical technology, with the aim of providing a university training for business life. The combined courses are designed to give the student a knowledge of the general principles that underlie all lines of business, with special training in the work of some particular calling.

#### ARRANGEMENT OF COURSES

The subjects of study are so arranged as to furnish training for (1) general business, (2) commerce, (3) the consular service, (4) banking, (5) insurance, (6) accountancy, (7) railway administration, (8) journalistic work.

The work of the class-room is supplemented with lectures by practical specialists, and with visits of inspection to industrial and mercantile establishments.

Courses are now offered which will enable the student to fulfill the requirements of the state law regulating the profession of public accountant and at the same time to secure a liberal education with accountancy as one of the principal subjects in his course.

The courses in railway administration have been considerably extended and it is now possible for a student to take a four years' course of study in either the traffic or the operating department. These courses in the new School of Railway Engineering and Administration replace the course hitherto given in transportation among the courses of training for business.

The outlines for the General Business Course, the courses in Banking, Accountancy, Railway Administration, and Journalism are given below. A detailed description of the other courses, together with a full account of the library and other facilities for the work is given in a separate circular, which may be had on application to the Registrar.

## GENERAL BUSINESS COURSE

This course is intended for students who wish to get a general knowledge of modern business organization and methods and their relation to the public welfare without specializing in the details of any particular business.

Every student must take enough courses to give him from 15 to 18 classes a week.

#### FIRST YEAR

Prescribed Subjects —

Economic Resources (Commercial Geography, Econ. 26)
English Economic History (Econ. 7)
Foreign Language
Military
Physical Training
Rhetoric (Rhet. 1)
Science or Advanced Algebra (Math. 2)

Prescribed Subjects —

Economic History U. S. (Econ. 22)
Foreign Language
Military
Physical Training
Rhetoric (Rhet. 1)
Science or Mathematics of Investment of the second of the seco Science or Advanced Algebra (Math. 2)

Foreign Language
Military
Physical Training
Rhetoric (Rhet. 1)
History of England (Hist. 11)
Science or Mathematics of Investments
(Math. 29)

### SECOND YEAR

Prescribed Subjects —
Principles of Economics (Econ. 1)
Military Ministry
American Federal Gov't. (Pol. Sci. 1)
History of U. S. (Hist. 3) or
History of Eng. (Hist. 23)
Suggested Electives:
Foreign Language continued
Calculus (Math. 8a)

Prescribed Subjects —
Money and Banking (Econ. 3)
Business Writing (Rhet. 10) Military American State Gov't. (Pol. Sci. 3) History of U. S. (Hist. 3) Suggested Electives: Foreign Language continued Statistics (Math. 30)

#### THIPD YEAR

Prescribed Subjects—
Domestic Commerce (Econ. 28) or
History of Commerce (Econ. 27)
Corpor. Management (Econ. 10) Accountancy 1
Ethics (Phil. 9)
Suggested Electives:
Accountancy 2 Foreign Language.

Prescribed Subjects—
reign Commerce (Econ. 29) or
U. S. Commercial Policy (Econ. 30)
Public Finance (Econ. 5) Accountancy I Suggested Electives: Accountancy 3
Foreign Language. Industrial Consolidations (Econ. 11)

#### FOURTH YEAR

Prescribed Subjects—
The Labor Problem (Econ. 12)
Seminary (Econ. 18)
Domestic Commerce (Econ. 28) or
History of Commerce (Econ. 27)
Financial History of U. S. (Econ. 4)

Prescribed Subjects:
The Labor Problem (Econ. 12)
Commercial Law (Law B)
Seminary (Econ. 18)
Mechanical Technology (M. E. 30 or 31)
Foreign Commerce (Econ. 29) or
U. S. Commercial Policy (Econ. 30)
Social Reform (Econ. 21)

#### Course in Banking

The work of the first and second years is the same as in the General Business Course, but students must take advanced algebra and the mathematics of investments in the first year.

#### THIRD YEAR

Prescribed Subjects:

Principles of Accounting (Acc'y 1)
Corporation Management (Econ. 10)
Ethics (Phil.)
Suggested Electives:
English Literature
Foreign Language
History of Commerce (Econ. 27)
Domestic Commerce (Econ. 28)
Cost Accounting (Acc'y 2)
Logic (Phil. 1)
History History

Prescribed Subjects:
Principles of Accounting (Acc'y 1)
Public Finance (Econ. 5)
Suggested Electives:
Foreign Commerce (Econ. 29)
U. S. Commercial Policy (Econ. 30)
Industrial Consolidations (Econ. 11)
Industrial Accountancy (Acc'y 3)
Philosophy and Psychology (Phil. 2)
History History

History

#### FOURTH YEAR

Prescribed Subjects:
U. S. Financial History (Econ. 4)
Practical Banking (Econ. 9)
Seminary (Econ. 18)
Suggested Electives:
Domestic Commerce (Econ. 28)
History Commerce (Econ. 27)
Labor Problem (Econ. 12)
Municipal Government (Pol. Sci. 4)
History

Prescribed Subjects:
Commercial Law (Law B)
The Money Market (Econ. 8)
Seminary (Econ. 18)
Suggested Electives:
Foreign Commerce (Econ. 29)
U. S. Commercial Policy (Econ. 30)
Statistics (Econ. 23, 24)
Labor Problem (Econ. 12) History

## Course in Accountancy

#### FIRST YEAR

Prescribed Subjects:
Rhetoric (Rhet. 1)
Foreign Language
Algebra and Trig. (Math. 2, 1)
Military (Mil. 2)
Physical Training (Phys. Tr. 1, 3)
English Econ. Hist. (Econ. 7) or
History of Europe (Hist. 1)

Prescribed Subjects:
Rhetoric (Rhet. 1)
Foreign Language
Analytical Geometry (Math. 6,
Military (Mil. 2 and 1)
Physical Training (Phys. Tr. 1 3)
U, S. Economic History (Econ. 22) or
History of Europe (Hist. 1)

#### SECOND YEAR

Prescribed Subjects:
Principles of Economics (Econ. 1)
Calculus (Math. 8a)
Science Science
Military (Mil. 2)
Suggested Electives:
Foreign Language continued
History of the U. S. (Hist. )
American Federal Gov't. (Pol. Sci. 1)

Prescribed Subjects:

Money and Banking (Econ. 3)
Averages and the Mathematics of Investment (Math. 29)
Business Writing (Rhet. 10)
Science
Military (Mil. 2)
Suggested Electives: Foreign Language continued History of the U. S. (Hist. 3) American State Gov't. (Pol. Sci. 3) Philosophy and Psychology (Phil. 2)

#### THIRD YEAR

Prescribed Subjects:
Principles of Accounting (Acc'y 1)
Cost Accounting (Acc'y 2)
Corporation Management (Econ. 10)
Theory of Statistics (Math. 30)
Suggested Electives:
History of the U. S. (Hist. 3 or 14)
Logic (Phil. 1)
Foreign Language
Domestic Commerce (Econ. 28)
Actuarial Theory (Math. 31)
Comparative Government (Pol. Sci. 2 Comparative Government (Pol. Sci. 2) Prescribed Subjects:
Principles of Accounting (Acc'y 1)
Industrial Accounting (Acc'y 1)
Industrial Consolidations (Econ, 11)
Public Finance (Econ, 5)
Suggested Electives:
History of the U. S. (Hist, 3 or 15)
Municipal Government (Pol. Sci. 4)
Foreign Language
Foreign Commerce (Econ, 29)

#### FOURTH YEAR

Prescribed Subjects:

Advanced Accounting (Acc'y 4)
Auditing (Acc'y 5)
Seminary (Econ. 18)
Contracts (Law 1)
Suggested Electives:
Practical Banking (Econ 9)
Labor Problem (Econ. 12)
Economics of Insurance (Econ. 33)
Social Ethics (Phil. 9)

Prescribed Subjects:
Advanced Accounting (Acc'y 4)
Trustee and Railway Acc'ting (Acc'y 6)
Commercial Law (Law B)
Seminary (Econ. 18)
Suggested Electives:
Money Market (Econ. 8)
Labor Problem (Econ. 12)

## Courses in Railway Administration

There are two distinct courses offered under this head, one emphasizing those subjects which are of most value to the student interested in the accounting and traffic aspects of railway work, the other laying stress upon the transportation service, properly so called, and intended to prepare men directly for the transportation departments of our railways.

#### TRAFFIC AND ACCOUNTING

#### FIRST YEAR

Prescribed Subjects: Economic Resources (Commercial Geography Econ. 26) Mathematics 2 and 4 Rhetoric 1 German or French Military 2 Physical Training

Prescribed Subjects: Econ. Hist. of the U. S. (Econ. 22) Mathematics 6 Rhetoric 1 German or French Military 1, 2 Physical Training

#### SECOND YEAR

Prescribed Subjects: Principles of Economics (Econ. 1) Mathematics 8a Physics 1, 3 Military 2

Prescribed Subjects:
Money and Banking (Econ. 3)
Investments (Math. 29)
Business Writing (Rhet. 10) Physics 1, 3 Military 2

#### THIRD YEAR

Prescribed Subjects: Accountancy 1, 2 Corporation Management (Econ. 10) R'y History and Organization (Econ. 41) Traffic Administration (Econ. 43) Political Science 1 or Hist. 3 Labor Problem (Econ. 12)

Prescribed Subjects: Accountancy r
Industrial Consolidations (Econ. 11)
Railway Administration (Econ. 42)
Railway Transportation (Econ. 44)
Railway Literature (Econ. 46)
Public Finance (Econ. 5)
Labor Problem (Econ. 12)

#### FOURTH YEAR

Prescribed Subjects: Accountancy 4, 5
Railway Literature cont. (Econ. 46)
Railway Practice (Econ. 45)
Sem. in R'y Administration (Econ. 18)
U. S. Financial History (Econ. 4)
U. S. Markets (Econ. 32) History or Political Science

Prescribed Subjects: Frestrible Subjects.
Accountancy 4, 6
Foreign Railway Systems (Econ. 47)
Sem. in R'y Administration (Econ. 18)
U. S. Markets (Econ. 32)
Social Reform (Econ. 21)
Commercial Law (Law P) Commercial Law (Law B) History or Political Science

#### TRANSPORTATION

## FIRST YEAR

Prescribed Subjects: Mathematics (2 and 4) General Eng'g Drawing 1 Rhetoric 1 German 1 Military 2 Physical Training 1, 3

Prescribed Subjects: Mathematics 6 Shop Practice (M. E. Rhetoric I German 3 Military 1, 2 Physical Training 1, 3

#### SECOND YEAR

Prescribed Subjects:
Mathematics 7
Physics 1, 3
Principles of Economics (Econ. 1)
Military 2

Prescribed Subjects:
Mathematics 9
Physics 1, 3
Business Writing (Rhet. 10)
Money and Banking (Econ. 3)
Analytical Mechanics (T. & A. M. 7)
Military 2

#### THIRD YEAR

Prescribed Subjects:
Corporation Management (Econ. 10)
R'y History and Organization (Econ. 41)
Traffic Administration (Econ. 43)
Resistance of Materials (T. & A. M. 8 and 9)
Electrical Engineering 16

Prescribed Subjects:
Railway Administration (Econ. 42)
Railway Transportation (Econ. 44)
Railway Literature (Econ. 46)
Steam Engines (M. E. 11)
Electrical Engineering 1
Surveying (C. E. 10)

## FOURTH YEAR

Prescribed Subjects:

Railway Practice (Econ. 45)
Railway Literature (Econ. 46)
Sem. in R'y Administration (Econ. 18)
Electrical Engineering 21
Locomotive Engines (Ry. Eng. 1)
Locomotive Road Tests (Ry. Eng. 4)
Engineering Materials (T. & A. M. 6)
Labor Problem (Econ. 12)

Prescribed Subjects:
Foreign Railway Systems (Econ. 47)
Sem. in R'y Administration (Econ. 18)
Traction (Ry. Eng. 61)
R'y Yards and Terminals (R'y. Eng. 31)
Dynamometer Car Tests (R'y. Eng. 8)
Railway Structures (R'y. Eng. 32)
Labor Problem (Econ. 12)

# Course in Journalism

#### FIRST YEAR

Foreign Language English 1 Rhetoric 1 History 1 Economics 7 Military Physical Training Foreign Language English 23 or 27 Rhetoric 1 History 1 Military Physical Training

#### SECOND YEAR

Rhetoric 3 or 20 Principles of Economics (Economics 1) Am. Federal Government (Pol. Sci. 1) Military Rhetoric 3 or 20 or 10 Money and Banking (Econ. 3) Advertising Am. State Government (Pol. Sci. 3) Military

#### THIRD YEAR

Newspaper Writing (Rhetoric 12)
History of the United States (Hist. 3)
Domestic Commerce (Econ. 28) or
Corporation Management (Econ. 10)
History of Commerce (Econ. 27)
English Literature

Newspaper Writing (Rhetoric 12) History of the United States (Hist. 3) Municipal Government (Pol. Sci. 4) American Diplomacy (Pol. Sci. 7) Customs Tariff of the U. S. (Econ. 30) English Literature

#### FOURTH YEAR

Extended Assignments (Rhet. 15)
Political Philosophy (Phil. 5) or
Political and Social Ethics (Phil. 9) or
Labor Problem (Econ. 12) or
Charities and Corrections (Sociology 5)
International Law (Pol. Sci. 6)
Editorial Management (Rhet. 22)

Editing and Editorial Writing (Rhet. 15)
Constitutional and Political History of the
United States since 1860 (Hist. 15)
Sociology
History of the Nineteenth Century
(Hist. 20)
Lectures on Newspaper Business, Organization and Management.

## COURSES PRELIMINARY TO LAW

It is recognized by the best authorities on legal education that professional studies in law should be preceded by a thorough course of liberal training in the humanities and the sciences. As a foundation for the study and practice of the law, the following subjects offered by this College are of special importance: English, with special reference to composition and public speaking; Latin and French; logic; constitutional and political history; political science; economics; sociology. A detailed outline of a course preliminary to law will be included in the *Circular* of the College of Literature and Arts for 1909.

By the proper selection of his studies it is possible for a prospective law student to take both his degree in arts and his degree in law in six years; and a strong student may be able to take his bachelor's degree in arts at the close of his first year in the College of Law. The following courses in the College of Law, not exceeding a total of 17 hours, may be counted for the degree of bachelor of arts: Law I (Contracts); Law 2 (Torts); Law 3 (Real Property); Law 6 (Personal Property). Some of these courses, not exceeding 9 hours, may, by special permission of the Dean, be taken in the junior year. If the student is also a candidate for the degree of LL.B., he should in his fourth year register in the College of Law and pay the usual fee of that college. Students are not permitted to take this law work until their junior year. A fee of five dollars is charged for every law subject, taken by students who do not pay the regular law school fee.

## COMBINED ARTS AND ENGINEERING COURSE

A graduate of the College of Literature and Arts, whose mathematical training includes the work of the calculus, who has had the usual college course in physics, and who has had sufficient training in the principles of mechanics to enable him to begin the mechanics of the junior year, may receive the degree of Bachelor of Science in the departments of the College of Engineering upon the completion of sixty-eight semester hours' work in such lines (including thesis) as may be directed by the Faculty. This work may ordinarily be done in two academic years. Candidates for the degree in the department of Architecture are not required to be prepared in calculus or mechanics, but should possess special preparation in drawing.

A limited number of courses in the College of Engineering, selected from the following list, may be counted for the degree of Bachelor of Arts:

General Engineering Drawing I and 2 (Mechanical Drawing and Descriptive Geometry); Theoretical and Applied Mechanics 7 and 8); Mechanical Engineering 7 or 15 (Thermodynamics); Civil Engineering 10 or 21 (Surveying); Architecture 6 (History of Architecture); Architecture 8 (Orders of Architecture); Architecture 29a (History of Architecture); Architecture 29b (History and Criticism of Art); Electrical Engineering I and 2I, or 2 and 26 (Principles).

## PHI BETA KAPPA SOCIETY

Each year a certain number of the ranking students in the senior class of the College of Literature and Arts are elected to membership in the University of Illinois chapter of the Phi Beta Kappa Society. The number is ordinarily limited to one-sixth of the total membership of the graduating class. For other University honors, see pages 42 ff.

# THE COLLEGE OF SCIENCE

The College of Science offers two distinct groups of courses. The courses of the first group aim to give the student an opportunity to obtain a liberal education in a scientific setting and lead ordinarily to the A.B. degree. These courses include not only work in the sciences, but in the humanities as well. They are distinguished from the courses offered in the College of Literature and Arts mainly by giving the student an opportunity to do his major work in some one of the biological, physical, or mathematical sciences. There are other subjects, however, which may be taken as a major in either college, according as the student prefers to elect the remainder of his work in accordance with the group system of the one college or the other.

The courses of the second group are of a more or less technical character and are planned with reference to the needs of a scientific profession. These courses give fewer opportunities for elective studies and lead ordinarily to the B.S. degree.

#### ADMISSION

Applicants for admission to the freshman class in the College of Science must be at least sixteen years of age.

As in the case of the other Colleges, admission may be by certificate from a fully accredited high school, or by examination, or by transfer of credits from some other college or university.

The conditions for admission from an accredited high school are described on page 31. The subjects which the accredited high school certificate must cover, or which the student must take by examination if he does not come from an accredited high school, are indicated in the following paragraphs.

## Admission by Examination

For the times of examination see page 31.

In all cases 15 units of high school work are required. Of these 15 units the following subjects are prescribed in the amounts indicated and no substitutes are accepted:

<sup>&</sup>lt;sup>1</sup>See page 22.

Algebra	units
English Composition	unit
English Literature2	units
Geometry, Plane	unit
Science	units

The remainder of the 15 units required for admission must be made up from the elective subjects listed on page 23 and described on pages 24 ff. No subject will be accepted in an amount less than the minimum indicated in that table.

Students who enter for the courses in ceramics and in chemical engineering must offer two units of German among their elective subjects.

# ADMISSION BY TRANSFER OF CREDITS AND TO ADVANCED STANDING

For the conditions of admission by transfer from other colleges and universities, and admission to advanced standing and registration, see page 38.

## ADMISSION AS SPECIAL STUDENTS

Persons over twenty-one years of age, not candidates for a degree, may be admitted to classes, after satisfying the Dean, and the professor in charge of the department in which such classes are taught, that they possess the requisite information and ability to pursue profitably, as special students, the chosen subjects. Such students are not matriculated; they pay a tuition fee of seven dollars and a half a semester, in addition to the regular incidental fee of twelve dollars. No one may enroll in the University as a special student for more than two years, except upon the recommendation of the faculty of the college, and the approval of the Council of Administration.

After successfully completing thirty semester hours of university work, a special student may receive such credits toward matriculation on account of practical experience in the line of his course as the head of the department and the Dean of the college may recommend, and the President of the University may approve.

# COURSES LEADING TO THE A. B. DEGREE

The courses of study leading ordinarily to the degree of Bachelor of Arts are the General Course in Science and the Six-year Medical Course.

## GENERAL COURSE IN SCIENCE

To graduate from a general course in science the following requirements must be fulfilled:

- r. The student must complete the work indicated in the prescribed list, except that physics and chemistry will not be required of students who have had one-year courses in these subjects in an accredited high school or acceptable equivalent courses elsewhere.
- 2. There must be obtained from the five groups of electives the number of hours' credit mentioned under each group. The physics and chemistry of the prescribed list may be applied on the requirements of Groups I and 2. Students who have had three years of work in foreign language in an accredited high school, or an equivalent course elsewhere, will be relieved from the requirement of Group 4. Those who have had one year or two years of high school language may be relieved from 4 hours or 8 hours, respectively, of the requirement of Group 4. No credit is given for a part of the first university year of any language.
- 3. A total credit of at least 20 hours must be secured in some one of the divisions of the major elective list. Not more than 40 hours' work (exclusive of thesis) in any one of these divisions may be applied toward graduation. In arranging the subjects to be counted toward the major requirement the student is advised to consult with the head of the department in which the major is taken.
- 4. The student must secure enough additional credits from the general elective list to complete the graduation requirement of 130 hours.

# GENERAL CLASSIFICATION OF SUBJECTS

PRESCRIBED LIST

Chemistry I
Physics 2a, 2b (or I, 3)
Rhetoric I
Military science I, 2
Physical training—
Men, I, 3
Women, 7, 9

GROUP ELECTIVES

Group 1. 10 hours required

Mathematics

Physics

Astronomy.

Physiography

Group 2. 10 hours required

Chemistry

Geology (including mineralogy)

Household Science

Group 3. 10 hours required

Botany

Zoology (including entomology)

Physiology

Psychology

Group 4. 16 hours required

Foreign language

Group 5. 8 hours required

English literature

History

Political science

Economics

Philosophy

Education

## MAJOR ELECTIVES

Astronomy

Botany

Chemistry

Education

Geology (including mineralogy)

Household science

Library science

Mathematics

Physics

Physiology

Psychology

Zoology (including entomology).

## GENERAL ELECTIVES

The subjects which may be taken as general electives include not only the branches taught by the departments of this college, but those offered by the other colleges and schools of the University. Courses in history, economics, languages, literature, and philosophy, taught in the College of Literature and Arts; those in agronomy, animal husbandry, and horticulture, taught in the Col-

lege of Agriculture; and certain courses taught in the College of Engineering and in the Library School afford abundant material from which elections may be made.

Approximately one-third of the work to be counted toward graduation may be selected subject to the approval of the Dean, from the subjects taught in other colleges of the University, if the student so desires.

#### THESIS

A thesis course may be taken in any department (subject to the approval of the head thereof) in which the student has done 20 hours of major work preceding his senior year. Students desiring to take a thesis course in geology or mineralogy may add to their credits in those subjects the credits received for chemistry also; and students in physiology may add to their credits in that subject those in zoology and bacteriology. Only students graduating with a thesis will, as a rule, be selected for fellowships, scholarships, and other similar university honors. Candidates for special honors are required by the general university regulations to write a thesis.

## PROSPECTUS OF COURSE OF INSTRUCTION

## FIRST YEAR

Fifteen to eighteen hours a week, including military and physical training, must be chosen each semester.

Military science and tactics are required of all male students. Drill extends through the freshman and sophomore years, and tactics through the second semester of the freshman year.

Physical training is required of all freshmen, men and women, two hours for men and three hours for women.

The following subjects are open to freshmen:

#### FIRST SEMESTER

Prescribed Subjects: Chemistry 1; Rhetoric 1; Military 2; Physical Training 1 and 3 for men; 7 and 9 (Physiology 6) for women.

Group 1: Astronomy 1; Mathematics 2, 4; Physical Geography (Geology 8).

Group 2: Chemistry 3 (for those who have had Chemistry 1 or its equivalent); Geology 1, 5 (Mineralogý), 10; Household Science 2.

Group 3: Botany 2, 4, 11; Entomology 4; Physiology 4; Zoology 10.

Group 4: French I; German I, 4 (for those offering two units for entrance); Greek I, 5 (for those offering entrance units); Italian I; Latin I (for those offering 3 units for entrance); Spanish I.

Group 5: Economics 7, 26; English 1; History 1, 11. General Electives: See statement on page xxxi.

## SECOND SEMESTER

Prescribed Subjects: Rhetoric 1; Military 1, 2; Physical Training 1 and 3 for men; 7 and 9 (Physiology 6) for women.

Group 1: Astronomy 4; Mathematics 3a, 6; Physical Geography

(Geology 8).

Group 2: Chemistry 1, 2, 3, and 5a (after Chemistry 2 and 3); Geology 1a, 6 (Optical Mineralogy); Household Science 1, 3.

Group 3: Botany 1, 5, 16, 17; Entomology 3; Zoology 2, 4, 9,

10, 16, 17b.

Group 4: French 1; German 3, 5, or 6 (after German 4); Greek 2, 6 (after Greek 5); Italian 1; Latin 1; Spanish 1.

Group 5: Economics 22, 26; English 23, 27; History I, II.

General Electives: See statement on page xxxi.

## HOUSEHOLD SCIENCE

The courses of instruction given in this department are planned to meet the needs of two classes of students, viz.: (a) those students who specialize in other lines of work, but desire a knowledge of the general principles and facts of household science; (b) those students who wish to make a specialty of household science for the purpose of teaching the subject in secondary schools and colleges.

Students holding scholarships in household science must elect that subject as a major. They must elect throughout the four years' continuous work in the department of household science or in subjects required for admission to the courses of that department.

For the convenience of such students the following outline is

given, suggesting the proper sequence of subjects:

## FIRST YEAR

I. Chemistry I; Mathematics 4; Zoology IO; Art and Design I; Physical Training 7 and 9.

2. Household Science 1; Chemistry 2 and 3; Rhetoric 1; Physical Training 7.

## SECOND YEAR

- 1. Chemistry 13a; Household Science 2, 6, 7; Architecture 41.
- 2. Chemistry 9 and 9c; Botany 5; Household Science 12.

## THIRD YEAR

- 1. Economics 1; Household Science 13; Physics 2a; Physiology 4; Architecture 29a and 29b.
  - 2. Household Science 3, 5; Sociology 5; Psychology 2.

## FOURTH YEAR

Household Science 4, 9, 10, 11; Education 1.

In order to graduate the student must also satisfy the other requirements for graduation in the general course in science.

Students not holding scholarships in household science may make that subject a major by meeting the general requirements concerning majors.

## LIBRARY SCIENCE

Library Science is offered as a major elective to meet the needs of those who are preparing for positions in scientific libraries, but are unable to complete the course as outlined in the Library School.

## PREPARATION OF SCIENCE TEACHERS

To graduate with a preparation for the teaching of science in the secondary schools, the student must meet the requirements of the general science course, choosing his major in that group containing the subjects which he wishes especially to teach, and adding Education 1, 3, and 7, Psychology 1. Philosophy 1, and at least four hours more in education or psychology.

As to the amount and the character of the work which should be taken in the major subject and those allied to it, the student should consult with the head of the department in which the principal work is taken. See also the circular of the School of Education.

## SIX-YEAR COURSE IN SCIENCE AND ENGINEERING

A graduate of the College of Science, whose mathematical training includes the work of the calculus, who has had the usual college course in physics, and who has had sufficient training in the principles of mechanics to enable him to begin the mechanics of the

junior year, may receive the degree of Bachelor of Science in the departments of the College of Engineering upon the completion of 68 semester hours' work in such lines (including thesis) as may be directed by the Faculty. The work for the two degrees may ordinarily be done in two academic years. Candidates for the degree in the Department of Architecture are not required to be prepared in calculus or mechanics, but should possess special preparation in drawing.

## SIX-YEAR MEDICAL COURSE

In addition to the usual four years' medical course, described by the College of Medicine, the University offers a six-years' continuous course in general science and medicine. This course leads to the degree of bachelor of arts upon the completion of four years' work, and to the degree of doctor of medicine at the end of the six-years' course. It includes everything contained in the four years' medical course, and in addition enables the student to go more deeply than would otherwise be possible into the fundamental sciences upon which medical studies are based.

Students who wish so to combine their work in general science with their professional studies in medicine as to receive both degrees may accomplish this purpose by pursuing at the University in Urbana the three years' work described below, including a year of medical studies, and then continuing their medical work in the College of Medicine in Chicago.

# PROSPECTUS OF THE SIX-YEAR MEDICAL COURSE

	K2T	ILAK	
Subject— FIRST SEMESTER S. H		SECOND SEMESTER	
C 1: . IIRSI DEMESIER		C 1. SECOND SEMESIER	
	L. *	Subject— S.	H.
General Chemistry (Chem. 1)	5	Descrip. Inorg. Chem. (Chem. 2)	2
	2	Qualitation And India (Cl	
Rhetoric and Themes (Rhet. 1)	3	Qualitative Analysis (Chem. 3)	3
Military (Mil. 2)	1	Rhetroic 1	3
Physical Training	I	Military(1,-2).	
Thysical Training		701 · 1 m	2
Trigonometry (Math. 4)	2	Physical Training	I
Zoology 10	<	Zoology 2	5
			5
m . 1		m	
Total	17	Total	16
SE.	CONT		
_ SEG	CONI	D YEAR	
SEC FIRST SEMESTER	CONI	D YEAR	
SEC Subject SEMESTER	CONI	D YEAR SECOND SEMESTER	
Subject— FIRST SEMESTER S.	CONI	D YEAR Second Semester Subject— Second Semester S.	
SEO SEMESTER SEMESTER S. German 1 or 4 or Latin <sup>1</sup>	CONI	D YEAR Second Semester Subject— Second Semester S.	
FIRST SEMESTER  Subject— S.  German 1 or 4 or Latin <sup>1</sup>	H.	D YEAR  Second Semester  Subject— German 3 or 5 or 6 or Latin <sup>1</sup>	H. 4
Subject— S. German 1 or 4 or Latin <sup>1</sup>	H. 4 3	D YEAR  Subject— Subject— Subject Subj	
FIRST SEMESTER S. German 1 or 4 or Latin¹ Zoology 3	H.	D YEAR  Subject—  German 3 or 5 or 6 or Latin¹ Zoology 3 Organic Chem. (Chem. 9, 9c)	H. 4
FIRST SEMESTER S. German 1 or 4 or Latin¹ Zoology 3	H. 4 3	D YEAR  Subject—  German 3 or 5 or 6 or Latin¹ Zoology 3 Organic Chem. (Chem. 9, 9c)	H. 4
FIRST SEMESTER Subject— S. German 1 or 4 or Latin¹ Zoology 3 Quantitative Analysis (Chem. 5a) Military 2	H. 4 3 5 1	D YEAR  Subject— German 3 or 5 or 6 or Latin <sup>1</sup> Zoology 3  Organic Chem. (Chem. 9, 9c)	H. 4 3 5
FIRST SEMESTER S. German 1 or 4 or Latin¹ Zoology 3	H. 4 3 5 1	D YEAR  Subject—  German 3 or 5 or 6 or Latin¹ Zoology 3 Organic Chem. (Chem. 9, 9c)	H. 4 3 5
FIRST SEMESTER Subject— S. German 1 or 4 or Latin¹  Coology 3  Quantitative Analysis (Chem. 5a)  Military 2  Physics 2a, 2b	H. 4 3 5 1 4	D YEAR  Subject—Second Semester  German 3 or 5 or 6 or Latin¹.  Zoology 3  Organic Chem. (Chem. 9, 9c).  Military 2.  Physics 2a, 2b.	H. 4 3 5
FIRST SEMESTER Subject— S. German 1 or 4 or Latin¹ Zoology 3 Quantitative Analysis (Chem. 5a) Military 2	H. 4 3 5 1 4	D YEAR  Subject— German 3 or 5 or 6 or Latin <sup>1</sup> Zoology 3  Organic Chem. (Chem. 9, 9c)	H. 4 3 5

<sup>\*</sup> Semester hours.

<sup>&</sup>lt;sup>1</sup> If Latin has not been offered for entrance.

#### 

## FOURTH YEAR

Students, who can afford it, would do well to spend a fourth year in continuing this course. For such students no studies are prescribed—each one is given free choice for selecting what he needs to round out his general education, or to prepare to specialize in some line of his future work. Upon the completion of this fourth year, the student takes his baccalaureate degree before going to the College of Medicine in Chicago.

Students who complete the above three years of prescribed work at the University, together with electives sufficient to amount to 97 hours' credit, will be given the degree of bachelor of arts at the commencement next following the completion at the Medical College of the work in human anatomy, physiology of the special senses and of the nervous system, therapeutics, general pathology, pathological anatomy, and surgical pathology (virtually one year's work).

The following subjects included in the above prospectus also count toward the medical degree:

Chemistry (general, organic, qualitative and quantitative analysis, and Toxicology), Biology (Zoology), Physiology, Normal Histology, Embryology, and Bacteriology.

Upon the satisfactory completion of the remaining three years of the medical course the University will confer the degree of doctor of medicine.

# COURSES LEADING TO THE B. S. DEGREE

The following courses of instruction in this College lead ordinarily to the degree of bachelor of science.

## COURSE IN CERAMICS

To graduate in ceramics the student must follow one of the courses outlined below. The conditions are such that but little election can be allowed.

Special courses will be arranged for those who wish a limited amount of work in ceramics, but those pursuing them will not be entitled to a degree and will not be recognized as graduates.

#### COURSE IN CERAMICS

#### FIRST YEAR SECOND SEMESTER FIRST SEMESTER Hrs. Hrs. Chem. 2 and 3..... Chemistry 1.... Math. 2 and 4, Adv. Alg. and Trig. . . . Rhetoric I Math. 6 Analytical Geom. M. E. I, Shop... Mil. and Phys. Tr... Rhetoric I.... M. E. 1, Shop.... Mil. and Phys. Tr... 17 17 SECOND YEAR SECOND SEMESTER FIRST SEMESTER Hrs. Chemistry 5b, Silicate Analysis..... Chemistry 5a, Quantitative ..... Physics 1 and 3... G. E. D., Descriptive Geometry.... Ceramics 1, Classification of Clays.... Physics 1 and 3..... 5 Math. 8a, Calculus..... Gen. Eng. Drawing..... Military.... Military..... THIRD YEAR FIRST SEMESTER SECOND SEMESTER Hrs. German 6 or French 2... Ceramics 5, Body Making. Chemistry 31, 33, Physical Chem... Ceramics 7, Ceramic Calculations... German 4 or French 2..... 4 Physics 16a and 16b... Ceramics 2, Winning and Preparation.. T. and A. M. 4, Applied Mechanics 4... Ceramics 3, Industrial Calculations.... Ceramics 12, Designing and Shaping... 3 IQ FOURTH YEAR FIRST SEMESTER SECOND SEMESTER Hrs. Geology 13. M. E. 11, Steam Engines and Boilers. . C. E. 10, Surveying. Ceramics, 8 Glass Manufacture..... Ceramics 11, Thesis.....

Those desiring to specialize in the subject of cement will take in place of Ceramics 12 (3d year, II) Ceramics 10. In the fourth year they are to take Ceramics 13, I (3) and Ceramics 14. II (3).

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Those wishing to specialize along the line of glass technology will replace Ceramics 12 (3d year, II) by Ceramics 8. In the fourth year there will be required Ceramics 15, I (3) and Ceramics 16, II (3).

# Course in Ceramic Engineering

FIRST	YEAR
FIRST SEMESTER  Chemistry I	SECOND SEMESTER
SECOND   First Semester   Hrs.   Chemistry 5a, Quantitative Chemistry . 4   Physics 1 and 3 5   Math. 7, Calculus 5   G. E. D. 1 3   Military	YEAR           SECOND SEMESTER         Hrs.           Chemistry 5b, Silicate Analysis.         5           Physics 1 and 3         4           Math. 9, Calculus.         3           G. E. D., Descript. Geom         3           Ceramics 1, Classification of Clays.         3           Military         1
THIRD  FIRST SEMESTER  Physics 16a and 16b	YEAR           SECOND SEMESTER         Hrs.           T. and A. M. 7, Mechanics         3           Ceramics 5, Body Making         5           Ceramics 12, Designing and Shaping         3           M. E. 11, Engines and Boilers         3           Rhetoric 1         3
FOURTH FIRST SEMESTER  T. and A. M. 8, Analyt. Mech. 2½ T. and A. M. 9, Resist. of Materials 3½ Ceramics 10, Cements 3 Ceramics 4, Drying and Burning 4 Ceramics 6, Glazes 5 18	YEAR           SECOND SEMESTER         Hrs.           Ceramics 9, Ceramic Construction         5           C. E. 10, Surveying         2           Ceramics 8, Glass Manufacture         3           Cer. 11, Thesis         5           15

### COURSE IN CHEMISTRY

The student may pursue a course in general science having chemistry as a major subject by conforming to the group requirements as outlined on pages 82 ff. Upon its completion the candidate is granted a degree of bachelor of arts.

For the more specialized training of the chemist the following course, largely prescribed, has been arranged. It leads to the degree of bachelor of science in chemistry.

# PROSPECTUS OF COURSE IN CHEMISTRY

FIRST	YEAR
FIRST SEMESTER	Second Semester
Subject— S. H.	Subject— S. H.
General Elementary Chemistry	4 1 1 1 0 . (25 1 0)
(Cham r)	Analytical Geometry (Math. 6) 5
(Chem. 1)	Descriptive Inorganic Chemistry (Chem. 2)
	Cuelitating Applacia (Change)
Advanced Algebra (Math. 2) 3	Qualitative Analysis (Chem. 3)
Rhetoric I 3	German 3 4
German 1 4	Military (Mil. 2)
Military (Mil. 2)	Drill Regulations (Mil. 1)
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)
_	_
Total	Total 17
	•
	•
SECONI	YEAR
Frace Controver	Spear Crienann
FIRST SEMESTER S. H. German 4	SECOND SEMESTER S. H. German 5
Swojet- S. H.	Suoject— 5. II.
German 4	German 5
Quantitative Analysis (Chem. 5a) 5	Advanced Analytical Chem. (Chem. 5b). 5
Physics I, 3 5	Rhetoric 1 3
Physics 1, 3	Physics 1, 3 4
Military (Mil. 2)	Military (Mil. 2)
Total 19	Total
THIRD	
Erner Crisperen	Subject— S. H.
Subject—S. H. Mineralogy	Subject— S. H.
Vincente S. II.	Subject S. H.
Nimeralogy 5	Organic Chem. (Chem. 14, 9b) 5
Organic Chemistry (Chem. 14, 9a) 5	Physical Chemistry (Chem. 31, 33a) 5
Seminary (Chem. 90)	Seminary (Chem. 90)
Economics 2	Philosophy 3
Electives 3	Electives 5
<u> </u>	
Total	Total
FOURTE	H YEAR
FIRST SEMESTER	SECOND SEMPOTER
Subject- C U	SECOND SEMESTER Subject— S. H. Seminary (Chem. 91)
Subject—S. H. Seminary (Chem. 91)	Saminary (Cham ar)
Gos and Fuel Analysis (Cham 64)	Jenniary (Chem. 91)
Gas and Fuel Analysis (Chem. 65) 2	Industrial Chem. (Chem. 61)
Thesis (Chem. 11) 5	I nesis (Chem. II)
Electives 8	Thesis (Chem. 11)
m . 1	
Total	Total 16

The electives required for graduation must be taken elsewhere than in the Chemical Department. French, differential and integral calculus, and some biological subject are recommended.

#### COURSE IN CHEMICAL ENGINEERING

The work of the technical chemist or superintendent is frequently so closely associated with mechanical and other engineering lines as to make a knowledge of these subjects essential. To meet these conditions, the following four years' course in chemistry and

related engineering subjects has been arranged. The degree given is that of bachelor of science in chemical engineering.

Preliminary preparation in German is required equivalent to two years of high school or one year of university work.

### PROSPECTUS OF COURSE IN CHEMICAL ENGINEERING

FIRST	YEAR
First Semester   S. H.	SECOND SEMESTER   S. H.
SECONI   Subject	SECOND SEMESTER   S. H.
Subject	Subject— S. H. Chemical Technology (Chem. 6b)
FOURTH   Subject	YEAR           Subject—         S. H.           Iron and Steel Analysis (Chem. 8)         2           Thesis (Chem. 11)         5           Industrial Chem. (Chem. 61)         2           Seminary (Chem. 91)         1           Electives.         5           Total         15

The electives required for graduation must be taken elsewhere than in the chemical department. French and engineering subjects are recommended.

# COLLEGE OF ENGINEERING

#### **FACULTY**

EDMUND JANES JAMES, Ph.D., LL.D., President WILLIAM FREEMAN MYRICK GOSS, M.S., D. Eng., Dean Fred Duane Crawshaw, B.S., Assistant Dean

#### In Architecture-

NATHAN CLIFFORD RICKER, D.Arch., Professor Newton Alonzo Wells, M.P., Professor, Architectural Decoration

James McLaren White, B.S., Professor, Architectural Engineering

JOHN WATROUS CASE, Assistant Professor, Architectural Design CHARLES RICHARD CLARK, B.S., Associate, Architectural Construction

LORING HARVEY PROVINE, B.S., Instructor, Architectural Engineering

CHARLES FABENS KELLEY, A.B., Instructor, Architecture and Art

# In Civil Engineering-

IRA OSBORN BAKER, C.E., D.Eng., Professor\*

JOHN PASCAL BROOKS, M.S., Associate Professort

Frank Oliver Dufour, C.E., Assistant Professor, Structural Engineering

CHARLES WESLEY MALCOLM, C.E., Assistant Professor, Structural Engineering

FRANK BERRY SANBORN, M.S., C.E., Assistant Professor

LAWRENCE GILBERT PARKER, C.E., Associate

RALPH BETHUEL SLIPPY, C.E., Instructor

CARROLL CARSON WILEY, B.S., Instructor John Jefferson Richey, B.S., Instructor

JOHN JEFFERSON KICHEY, B.S., Instructor

George Wellington Pickels, Jr., C.E., Instructor

<sup>\*</sup>On leave for the college year 1908-09.

<sup>+</sup>Acting head of the department for the college; year.

James Elmo Smith, B.S., Instructor Charles Clinton Aleright, C.E., Instructor Lewis McDonald, A.B., B.S., Assistant

# In Electrical Engineering-

MORGAN BROOKS, Ph.B., M.E., Professor
ELLERY BURTON PAINE, M.S., E.E., Assistant Professor
EDWARD HARDENBURGH WALDO, A.B., M.E., Assistant Professor
JOHN MYRON BRYANT, B.S., Associate
FRANK GARDNER WILLSON, B.S., Instructor
HARRY GRAY HAKE, B.S., Assistant
LEONARD VAUGHAN JAMES, B.S., Assistant
TRYGVE JENSEN, B.S., Assistant

## In Mechanical Engineering-

Lester Paige Breckenridge, Ph.B., Professor George Alfred Goodenough, M.E., Associate Professor Oscar Adolph Leutwiler, M.E., Assistant Professor, Machine Design

JAMES HERBERT GILL, M.E., Assistant Professor, Machine Construction

JOHN CHARLES THORPE, M.E., Assistant Professor, Steam Engineering

DAVID LEONARD SCROGGIN, Instructor, Machine Shop
EDGAR THOMAS LANHAM, Instructor, Forge Shop
WILLIAM VAN DUNKIN, B.S., Instructor, Machine Design
CLAUDE MALLORY GARLAND, B.E., Instructor
FREDERICK ELLIS, Instructor, Wood Shop
HARRY FREDERICK GODEKE, B.S., Instructor
SHIELDS CASPER, Instructor, Foundry
ALFRED RITTSCHER BENCH, B.S., Instructor
HENRY BERNHARD DIRKS, M.E., Instructor
LOMA WILLIAM GOBEN, Assistant, Machine Shop
JAMES MERION DUNCAN, Assistant, Wood Shop
JOHN BARBER COOK, Assistant, Forge Shop
JOHN WESLEY TARFLINGER, Assistant, Foundry
WILLIAM CLARENCE BRADFORD, Assistant, Machine Shop

# In Municipal and Sanitary Engineering and Theoretical and Applied Mechanics—

ARTHUR NEWELL TALBOT, C.E., Professor, Municipal and Sanitary Engineering; in charge of Theoretical and Applied Mechanics

HERBERT LUCIUS WHITTEMORE, B.S., Associate, Applied Mechanics

ROY VICTOR ENGSTROM, B.S., Associate, Theoretical and Applied Mechanics

HARVEY ELLISON MURDOCK, M.E., Instructor, Theoretical and Applied Mechanics

MELVIN LORENIUS ENGER, B.S., Instructor, Theoretical and Applied Mechanics

VIBGIL R FLEMING, B.S., Instructor, Applied Mechanics

GEORGE CONRAD HABERMEYER, B.S., Instructor, Municipal and Sanitary Engineering

FREDERICK WILLIAM DOOLITTLE, A.B., B.S., Instructor, Theoretical and Applied Mechanics

CARL WAGNER, B.S., Instructor, Theoretical and Applied Mechanics

## In Physics-

Albert Pruden Carman, Sc.D., Professor
Charles Tobias Knipp, Ph.D., Assistant Professor
Floyd Rowe Watson, Ph.D., Assistant Professor
William Frederick Schulz, E.E., Ph.D., Assistant Professor
Elmer Howard Williams, A.M., Instructor
Waldemar Matthaeus Stempel, A.M., Instructor
William Warren Stifler, A.M., Assistant
Otto Stuhlmann, Jr., A.B., Assistant
Jacob Garrett Kemp, A.B., Assistant
Edward Chapman Converse, A.B., Assistant

## In Railway Engineering-

WILLIAM FREEMAN MYRICK Goss, M.S., D.Eng., Director EDWARD CHARLES SCHMIDT, M.E., Associate Professor SHELBY SAUFLEY ROBERTS, C.E., Assistant Professor, Railway Civil Engineering

EDWARD ISAAC WENGER, B.S., Associate

Albert St. John Williamson, M.E., Instructor, Railway Mechanical Engineering

# In General Engineering Drawing-

CARLOS LENOX McMaster, C.E., Associate CARL RANKIN DICK, B.S., Instructor FRANCIS MARION PORTER, B.S., Instructor ARTHUR RUSSELL LORD, B.S., Instructor ARTHUR MATTHEW ELAM, B.S., Assistant

#### GENERAL STATEMENT

The purpose of the College is to train young men for the profession of engineering. In arranging its courses of study and practice, cultural subjects have not been neglected, but are interwoven with the strongly theoretical subjects which underlie and reinforce the more practical developments of the several departments. The instruction of the class room and the practice afforded by the library, the drafting room, and the laboratory proceed hand in hand. Throughout his course the student works upon problems, and proceeds by methods which are similar to those which enter into the experience of the practicing engineer.

The buildings, laboratories, and other facilities of the College are elsewhere described.

#### **ADMISSION**

Applicants for admission to the freshman class of the University in the College of Engineering must satisfy the general requirements described on pages 22 ff.

Admission may be obtained, as in the case of the other Colleges and Schools, by presenting a certificate from an accredited high school, as described on page 31; or by transfer of credits from some other college or university<sup>1</sup>; or by examination. Subjects which the high school certificate must cover, or on which examinations muse be passed, are listed below.

In all cases fifteen units of high school work are required. Of these the following are prescribed, and no substitutes are accepted:

AlgebraI½	units
English composition	unit
English literature2	units
Geometry, plane	unit
Geometry, solid and spherical 1/2	unit
Physics	unit7 units

The remainder of the 15 units required for admission must be made up from the elective subjects listed in the table on page 23 and in the amounts there described.

For admission by transfer of credits, and admission to advanced standing see page 38.

See page 38.

<sup>2</sup>See page 22.

### ADMISSION AS SPECIAL STUDENTS

Persons over twenty-one years of age, not candidates for a degree, who have passed the entrance requirements in mathematics and English, may be admitted to classes, after satisfying the Dean and the professor in charge of the department in which such classes are taught, that they possess the requisite information and ability to pursue profitably, as special students, the chosen subjects. Such students are not matriculated; they pay a tuition fee of seven dollars and a half a semester, in addition to the regular incidental fee of twelve dollars. No one may enroll as a special student for more than two years, except upon the recommendation of the faculty of the College and the approval of the Council of Administration.

After successfully completing thirty semester hours of university work, a special student may receive such credits toward matriculation on account of practical experience in the line of his course as the head of the department and the dean of the college may recommend and the President of the University may approve.

#### DESCRIPTION OF DEPARTMENTS

The College of Engineering comprises the following departments:

DEPARTMENT OF ARCHITECTURE, Courses in-

Architecture

Architectural Engineering

Architectural Decoration

DEPARTMENT OF CIVIL ENGINEERING

DEPARTMENT OF ELECTRICAL ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

DEPARTMENT OF MUNICIPAL AND SANITARY ENGINEERING

DEPARTMENT OF THEORETICAL AND APPLIED MECHANICS

DEPARTMENT OF PHYSICS

SCHOOL OF RAILWAY ENGINEERING AND ADMINISTRATION

Department of Railway Engineering<sup>1</sup>, Courses in—

Railway Civil Engineering

Railway Electrical Engineering

Railway Mechanical Engineering.

<sup>&</sup>lt;sup>1</sup>The School of Railway Engineering and Administration offers courses in railway administration and in railway accountancy under the direction of the department of economics of the College of Literature and Arts. For a description of these courses see "Training for Business," pages 76 ff.

#### ARCHITECTURE

This department offers three courses of instruction and practice, preparing the graduate to enter the respective professions of architect, of architectural engineer, or of decorator of buildings.

### EQUIPMENT

A large collection of casts of ornament, models of structures, working drawings and blue prints, and of specimens of stones, bricks, tiles, terra cotta, fixtures and fittings, of 300 species of American woods, etc., is arranged in the architectural museum. More than 20,000 engravings, photographs, etc., mounted on cards, are classified for quick reference in the drawing rooms and library. An electric lantern is used in a specially fitted room, together with a collection of 8,500 lantern slides illustrating the history of architecture and of art. A Zeiss' epidiascope is also used for projecting photographs, colored plates and views in their actual colors. The architectural library is located in a room in the department, and is open for use by students during the entire day. It also includes a large classified collection of plates from architectural journals and mounted photographs, and a collection of 2,400 stereoscopic views,

## Purpose of Courses of Study

Architecture. This prepares graduates for State examinations and for the general practice of architecture. Especial attention is paid to the study and practice of original design, while retaining the work in construction and in strength of materials required for safe building.

Architectural Engineering. This qualifies graduates for the State examinations and for practice as architectural engineers, structural designers and superintendents of construction. Fireproof structures are a specialty. To the course in architecture are added a year of mathematics, one of architectural engineering, and nearly a year of bridges, omitting an equivalent amount of architectural drawing and design.

Architectural Decoration. This course prepares graduates as professional decorators of first class architectural works, and designers of all forms of ornamentation applied thereto. Therefore especial attention is devoted to the study of color and historical styles, and to the use of ornament. Practical applications are made in the architectural laboratory.

#### CIVIL ENGINEERING

The purpose in this department is to furnish a course of theoretical instruction, accompanied and illustrated by a large amount of practice. While the instruction aims to be practical by giving the student information and practice directly applicable in his future professional work, the prime object is the development of the mental faculties. The power to acquire information and ability to use it are held to be of far greater value than any amount of so-called practical knowledge.

### EQUIPMENT

This department has an extensive equipment of compasses, engineers' transits, solar transits, levels,—ordinary and precise,—plane tables, sextants, chronometers, barometers, etc. The department is also provided with a collection of structural shapes including full-sized joints of an actual railroad bridge, sections of columns, eyebars, etc., and with lithographs, photographs, and blue-prints of bridges and buildings.

The cement laboratory occupies rooms in the Mechanical Engineering Laboratory, and is provided with slate tables, testing machines, molding machines, sieves, etc., and sample barrels of hydraulic cement, varieties of sand and other necessary materials.

The road laboratory occupies a room in the Mechanical Engineering Laboratory, and is provided with machines for testing the resistance of macadam material to impact and abrasion and for making the cementation test. The laboratory is also supplied with a variety of rattlers and other devices for testing paving material.

### ELECTRICAL ENGINEERING

This is a course of study in theoretical and applied electricity. The first two years of work are substantially the same as in the other engineering courses, including practical work in drafting room and shop, as well as instruction in the fundamental principles of mathematics and physics. With the third year the fundamental studies relate more directly to electrical engineering. A course in dynamo machinery is followed by the theory of alternating currents, while laboratory and design courses emphasize underlying principles. Technical courses cover the generation, transmission and distribution of electric power, and its various applications. In the laboratory a study of dynamo characteristics is followed in the fourth year by progressive experiments involving the operation of

electrical machinery in principle and practice. Investigation of the problems of power distribution is a feature of advanced laboratory and thesis work.

EQUIPMENT

The 200 kilowatt power plant of the University located in the Electrical Engineering Laboratory supplies current for department use and affords opportunity for tests. A 40 kilowatt motor-generator recently installed in the laboratory together with two new experimental switchboards furnish excellent facilities for operating the direct and alternating machines of the department under any specified conditions.

The various types of generators, motors, converters and transformers are well represented, often in duplicate. Several machines built by students are in use in the laboratory. Modern measuring instruments of suitable range are amply provided for laboratory tests and for the calibration of commercial instruments of all types.

Three photometers and a room for display lighting offer exceptional opportunity for tests and practical comparisons of the various forms of lamps, both gas and electric. Two rooms not adjacent are furnished with special 100-line switchboards with cables, coils, batteries and instruments to illustrate recent practice in telegraphy and telephony, as well as to provide for the rapid comparisons required in telephone experiments.

### MECHANICAL ENGINEERING

It is the prime object of the Department of Mechanical Engineering to give its students a thorough training in the theoretical principles underlying the construction and operation of machinery and the generation and transmission of power. The theoretical instruction is supplemented by shop and laboratory work of a practical character.

## EQUIPMENT

The drawing rooms are equipped with card indexes, reference books, catalogs, gear charts, etc. In the cabinet rooms are kinematic models and sectional steam specialties.

The Steam Engineering Laboratory contains steam engines of various types, a York refrigerating machine of 10 tons refrigerating capacity, a DeLaval stream turbine direct-connected to a compound centrifugal pump, a Kerr steam turbine, a gas producer, a special test boiler of 210 horse power, an independent superheater, a compound air compressor, a four stage air compressor, several gas engines, a hot air engine, a large volume fan, and a complete outfit

of instruments used by the mechanical engineer for testing purposes. In the central heating station are several types of boilers equipped with different kinds of automatic stokers; there are also various steam and power pumps.

The shops of the College are in charge of the department of mechanical engineering; they consist of a wood shop, foundry, forge shop, and machine shop. The shops are large, well lighted and attractive; they are all equipped with modern tools and furnish abundant facilities for giving the student the necessary practice in this line of work.

By special arrangement with the management of the Peoria and Eastern division of the C. C. C. & St. L. railway, the power plant and shops located at Urbana have been opened to the Mechanical Engineering Department for visits of inspection and for experimental investigations. Ample opportunity is thus furnished for the study of machinery and for processes in a shop operated under commercial conditions.

### MECHANICS, THEORETICAL AND APPLIED

The courses in theoretical and applied mechanics are designed to meet the needs of students at the College of Engineering.

The laboratory of applied mechanics, comprising the materials testing laboratory and hydraulics laboratory, occupies a separate building and its equipment is extensive and well suited for instruction and investigation. The materials laboratory is equipped with testing machines for tension, compression, flexure, and torsion, and for testing various kinds of structural materials. A testing machine having a capacity of 600,000 lbs, and arranged to take large and bulky pieces in tension, compression and flexure is a recent acquisition. The hydraulics laboratory has a standpipe, pumps, water motors and turbine, measuring pits, Venturi meters, weir conduits, meter rating conduit, orifice boxes, weir boxes, and apparatus for experimental work on flow of water through pipes, hose, and nozzles. The University water-works furnishes an abundant supply of water at pressures up to 100 pounds a square inch.

# MUNICIPAL AND SANITARY ENGINEERING

This course is designed to train for the varied duties of the engineer employed on the design, construction, and operation of public works and public utilities, as well as to give training for general engineering work.

#### Instruction

The methods of training are intended to develop power to take up and solve new problems connected with municipal public works, as well as to design and to superintend the ordinary constructions. Surveying, structural materials, and structural design are taught as in the civil engineering course. Chemistry and bacteriology, so far as necessary to a comprehension of the questions involved in water supply and sewage disposal, are given. Instruction in mechanical and electrical engineering in the generation and transmission of power is given.

#### **PHYSICS**

### LABORATORY AND EQUIPMENT

The physics department occupies, in Engineering Hall, a lecture room, with seats for 200 students; four adjoining rooms, for lecture apparatus and preparation; a general laboratory room 60 feet square, for first year experimental work; an adjoining apparatus room: six small laboratories on the first floor with masonry piers, a constant temperature room, a battery room, a work shop, and three offices for instructors. These rooms are supplied with gas. water, compressed air, vacuum pipes, polyphase, alternating and direct electric currents, and other facilities for instruction and investigation in physics. The laboratory contains a large collection of standard electrical and magnetic measurement apparatus from the best makers, together with various pieces and devices designed and constructed in the department. In optics there are spectrometers, Rowland diffraction gratings (plane and concave), a Fresnel optical bench, a complete photometer bench in a well-equipped dark room, a spectrum photometer, polarization apparatus, etc. The collection also includes apparatus for measurements of precision, such as balances, dividing engines, cathetometer, chronograph, Kater's pendulum, thermometers, pyrometers, etc. The work shop of the department is equipped with two power lathes, milling machine, and a good collection of tools. The services of a mechanician give the department facilities for making apparatus from original designs, both for instruction and investigation.

#### **RAILWAY ENGINEERING\***

The department of railway engineering is designed to serve those who wish to prepare themselves for service in the technical

<sup>\*</sup>See also School of Railway Engineering and Administration.

departments of railways. The course in railway civil engineering adds to the fundamentals of a well-rounded engineering course, a group of highly specialized subjects which concern the design, construction and maintenance of the various details entering into the construction of track, track structures, and of systems of railway signaling. The course in railway electrical engineering emphasizes the design and construction of those details peculiar to electric railway lines; the operation and performance of electric cars and locomotives, and to the development of the more general problems which arise in the electrification of existing steam lines. The course in railway mechanical engineering is intended to meet the requirements of those who are especially interested in steam railroad equipment. It deals with the design, construction, and maintenance of various types of railway cars, with conditions affecting train resistance, with the design and operation of steam locomotives, and with tests disclosing their performance.

#### EOUIPMENT

Three steam roads—the Illinois Central, the Cleveland, Cincinnati, Chicago and St. Louis, and the Wabash railroads—and an electrical interurban road—the Illinois Traction System—enter Champaign and Urbana. The department enjoys the interest and cooperation of the officers of these railways, and is afforded by their courtesy numerous opportunities for practical road tests and field work. The division shops of the Cleveland, Cincinnati, Chicago and St. Louis railroad are located at Urbana and provide additional opportunity for similar work.

The department has for some years owned and operated, jointly with the Illinois Central Railroad, a railway test car which was designed for experimental work on steam roads. It is fully equipped for making train resistance and locomotive performance tests, and during the last six years has been in frequent operation, in carrying on resistance and tonnage rating tests, on the Illinois Central Railroad and on several eastern roads.

For work on electric roads the department also owns an electric test car. This car, of the interurban type, was especially designed and built for the University for experimental work. It is equipped with four 50 horse power direct current motors and with the Westinghouse multiple control system and is provided with instruments for recording power, speed, acceleration, and the other data needed in road tests. Through the courtesy of the Illinois Traction System, this car is operated on its lines, which enter the University campus.

Much of the work in the railway courses is given in the departments of civil, electrical, and mechanical engineering, and the shop and laboratory equipment of these departments is available for students of the railway department.

The department has under construction a master car builders standard drop-testing machine and a master car builders brakeshoe testing machine, both of which will be available for use early in the year of 1909. The drop-testing machine is designed for use in testing the strength of railroad rails, of car axles, of car couplers and of draft gears, and may be used in studies concerning the physical properties of structural materials of any sort. The brakeshoe testing machine supplies means for determining the wearing properties and frictional qualities of brake-shoes, such as are employed in regular service on railroad trains. The fact that the railroads of the country consume more than 200,000 tons of brakeshoe metal per annum; that the annual brake-shoe bill is probably in excess of \$8,000,000, and that both the durability and holding power of individual shoes vary greatly, emphasizes the value of the work which may be done by the use of this machine.

#### SUGGESTED ELECTIVES

The following courses are suggested as electives for students in the College of Engineering whose time is not fully occupied with required work:

Art and Design 1; Astronomy 3 and 6; Chemistry 2, 3a, 16, 34, 35; Economics 10, 13, 14, 16; Geology 13; Mathematics 10, 11, 14; Rhetoric 3, 7, 10, 13; Physics 15, 16, 17; Law B; Library 12; Architecture 2, 3, 4, 13; Civil Engineering 4a, 5, 21, 22; Electrical Engineering 1, 2, 5, 6, 16, 21, 25, 26, 29; Mechanical Engineering 7, 10, 26, 27, 30, 31; Railway Engineering 11.

#### SUMMER READING

All engineering students not graduates of a library college are required to complete prescribed courses of reading of a non-professional character during the summer vacations following the freshman and the sophomore years. The purpose of the summer reading is to increase the acquaintance of the students with literature, history, and general science, to develop in him a taste for such reading, and to impress him with the importance of such knowledge not

only as a source of individual enjoyment, but as a practical aid to engineers in their social and business relations.

A circular on Summer Reading is issued, containing a list of books from which the student may select the books to be read. The books have been selected for their value as general training, but an attempt has been made to include only readable and attractive works. A statement of the works read during the summer is required at the beginning of the next college year.

# Required for Degree of B.S. in Architecture

FIRST	YEAR	
FIRST SEMESTER	SECOND SEMESTER	
Subject — S. H.1	Subject — S. H. <sup>1</sup>	
General Engineering Drawing (G.E.D.1)2 4	Descriptive Geometry (G. E. D. 2) 4	
Trigonometry (Math. 4)	Analytical Geometry (Math. 6) 5	
Advanced Algebra (Math. 2) 3	French 1, or German 3 or 5 or 6, or Eng-	
French 1, or Greman 1 or 4, or English	lish 2, or Rhetoric 11, or Spanish 1 4	
1, or Spanish 1 4	Orders of Architecture (Arch. 8) 3	
Free Hand Drawing (Arch. 20) 3	Military Drill (Mil. 2) 1	
Military Drill (Mil. 2)	Drill Regulations (Mil. 1)	
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)	
Gymnasium (Fnys. 11. 1, 3/	Oyumasium (1 mys. 11. 1, 3/ 1	
Total18	Total	
10tal	101	
SECONI	VEAD	
	SECOND SEMESTER	
FIRST SEMESTER S. H.	Subject — S. H.	
Applied Mechanics(T. & A. M. 4) 4	Strength of Materials (T. & A. M. 5) 4	
Physics Lectures (Phys. 2a) 2	Physics Lectures (Phys. 2a) 2	
Physics Laboratory (Phys. 2b) 2	Physics Laborator (Phyys. 2b)	
Rhetoric 1 3	Rhetoric 1	
Wood Construction (Arch. 2) 3	Masonry and Metal Construction (Arch.3) 3	
Architectural Perspective (Arch. 14) 2	Requirements and Planning of Build-	
Perspective Sketches (Arch. 35)	ings (Arch. 15)	
Monthly Problems (Arch. 9)	Monthly Problems (Arch. 9)	
Military Drill (Mil. 2)	Military Drill (Mil. 2)	
Total18½	Total 18½	
THIR	D YEAR	
First Semester	SECOND SEMESTER	
Subject — FIRST SEMESTER S. H.	Second Semester Subject — S. H.	
FIRST SEMESTER Subject — S. H. History of Architecture (Arch. 6) 4	SECOND SEMESTER Subject — S. H. History of Architecture (Arch. 6) 4	
FIRST SEMESTER S. H. History of Architecture (Arch. 6) 4 Architectural Seminary (Arch. 11) 1	SECOND SEMESTER S. H. History of Architecture (Arch. 6) 4 Architectural Seminary (Arch. 11) 1	
FIRST SEMESTER  S. H. History of Architecture (Arch. 6) 4 Architectural Seminary (Arch. 11) 1 Sanitary Construction (Arch. 4) 2	Second Semester   S. H.	
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6)	SECOND SEMESTER   S. H.	
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6)	SECOND SEMESTER S. H. History of Architecture (Arch. 6)	
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6) 4  Architectural Seminary (Arch. 11)	SECOND SEMESTER           Subject —         S. H.           History of Architecture (Arch. 6)         4           Architectural Seminary (Arch. 11)         1           Historic Ornament (Arch. 7)         2           Graphic Statics and Roofs (Arch. 5)         4           Architectural Designing (Arch. 17)         3           Working Drawings (Arch. 10)         2	
First Semester   S. H.	SECOND SEMESTER   S. H.	
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6) 4  Architectural Seminary (Arch. 11)	SECOND SEMESTER           Subject —         S. H.           History of Architecture (Arch. 6)         4           Architectural Seminary (Arch. 11)         1           Historic Ornament (Arch. 7)         2           Graphic Statics and Roofs (Arch. 5)         4           Architectural Designing (Arch. 17)         3           Working Drawings (Arch. 10)         2	
First Semester   S. H.	Second Semester   S. H.	
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6). 4  Architectural Seminary (Arch. 11). 1  Sanitary Construction (Arch. 4). 2  Architectural Composition (Arch. 8). 3  Water Coloring Rendering (Arch. 32). 1  Rendering Ornament (Arch. 33). 2  Principles of Economics (Econ. 2). 2  Clay Modeling (A. and D. 8a). 2  Monthly Problems (Arch. 9). 2	SECOND SEMESTER   S. H.	
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6) 4  Architectural Seminary (Arch. 11)	Second Semester   S. H.	
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6). 4  Architectural Seminary (Arch. 11). 1  Sanitary Construction (Arch. 4). 2  Architectural Composition (Arch. 8). 3  Water Coloring Rendering (Arch. 32). 1  Rendering Ornament (Arch. 33). 2  Principles of Economics (Econ. 2). 2  Clay Modeling (A. and D. 8a). 2  Monthly Problems (Arch. 9). 2	Second Semester   S. H.	
First Semester   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	SECOND SEMESTER   S. H.	
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.	
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.	
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.	
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	Second Semester   S. H.	
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	SECOND SEMESTER   S. H.	
First Semester   S. H.	Second Semester   S. H.	

<sup>&</sup>lt;sup>1</sup>Semester hours. See General Description of Courses, Part III. <sup>2</sup>The numbers in parenthesis refer to courses in the General Description of Courses, Part III.

# Required for Degree of B.S. in Architectural Engineering

FIRST	YEAR
. IRST SEMESTER	SECOND SEMESTER
Subject — S. H.1	Subject - S. H.1
GeneralEngineeringDrawing(G.E.D.1) <sup>2</sup> 4	Descriptive Geometry (G. E. D. 2) 4
Trigonometry (Math. 4)	Analytical Geometry (Math. 6) 5
Advanced Algebra (Math. 2) 3	French 1, or German 3 or 5 or 6, or Eng-
French 1, or German 1 or 4, or English	lish 2, or Rhetoric 11, or Spanish 1 4
1, or Spanish 1 4	Shop Practice (M. E. I)
Shop Practice <sup>3</sup> (M. E. 1)	Military Drill (Mil. 2)
Military Drill (Mil. 2) 1	Drill Regulations (Mil. 1)
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)
Total 18	Total 19
2000	200010000000000000000000000000000000000
OTIGO.Y	YTD LD
SECONI	
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Differential Calculus (Math. 7) 5	Integral Calculus (Math. 9) 3
Physics Lectures (Phys. 1)	Physics Lectures (Phys. r) 2
Physics Laboratory (Phys. 3)	Physics Laboratory (Phys. 3)
Rhetoric 1 3	
Wood Construction (Arch. 2)	Managera and Matal Construction (And ) 3
Architectural Perspective (Arch. 14) 2	Masonry and Metal Construction (Arch.
Military Drill (Mil. 2)	3)3
	Requirements and Planning of Build-
Total	ings (Arch. 15) 3
	Military Drill (Mil. 2)
	Total 20
THIRD Y	TEAD
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Analytical Mechanics (T. A. & M. 8) 2½	Hydraulics (T. & A. M. 10)
Engineering Materials (T. & A. M. 9) 3½	Graphic Statics and Roofs (Arch. 5) 4
Engineering Materials (T. & A. M. 9) 3½ Engineering Materials (T. & A. M. 6) 1	Working Drawings (Arch. 10) 2
History of Architecture (Arch. 6) 4	History of Architecture (Arch. 6) 4
Architectural Seminary (Arch. 11) 1	
	Steam Engines and Boilers (M. E. 11) 3
Sanitary Construction (Arch. 4)	Steam Engines and Boilers (M. E. 11) 3 Principles of Economics (Econ. 2) 3
Sanitary Construction (Arch. 4) 2	Principles of Economics (Econ. 2) 2
Sanitary Construction (Arch. 4) 2 Chemistry 14	Principles of Economics (Econ. 2) 2
Chemistry r <sup>4</sup> 4	Steam Engines and Boilers (M. E. 11) 3 Principles of Economics (Econ. 2) 2  Total 18
Sanitary Construction (Arch. 4) 2	Principles of Economics (Econ. 2) 2
Sanitary Construction (Arch. 4)	Principles of Economics (Econ. 2) 2 Total
2   2   2   2   2   2   2   2   2   2	Principles of Economics (Econ. 2) 2  Total
2   2   2   2   2   2   2   2   2   2	Principles of Economics (Econ. 2)
2   2   2   2   2   2   2   2   2   2	Principles of Economics (Econ. 2) 2  Total
2   2   2   2   2   2   2   2   2   2	Principles of Economics (Econ. 2) 2
Subject -   S. H.   Architectural Eng. (Arch. 12)   3   3   3   3   3   3   3   3   3	Principles of Economics (Econ. 2)
Subject -   S. H.   Architectural Eng. (Arch. 12)   2   3   3   3   3   4   5   4   5   5   6   6   6   6   6   6   6   6	Principles of Economics (Econ. 2)
Subject -   S. H.   Architectural Eng. (Arch. 12)   2   3   3   3   3   4   5   4   5   5   6   6   6   6   6   6   6   6	Principles of Economics (Econ. 2)
2   2   2   2   2   2   2   2   2   2	Principles of Economics (Econ. 2)
Subject -   S. H.   Architectural Eng. (Arch. 13)   3	Principles of Economics (Econ. 2)
Chemistry Construction (Arch. 4)   2	Principles of Economics (Econ. 2)
Subject -   S. H.   Architectural Eng. (Arch. 13)   3	Principles of Economics (Econ. 2)
Chemistry Construction (Arch. 4)   2	Principles of Economics (Econ. 2)
Chemistry Construction (Arch. 4)   2	Principles of Economics (Econ. 2)

¹Semester hours. See General Description of Courses, Part III.
²The numbers in parenthesis refer to courses in the General Description of Courses, Part III.
³Free Hand Drawing (Arch. 20) may be substituted first semester, and Orders of Architecture (Arch. 8), second semester, for Mechanical Engineering 1.
¾ 'Students who have offered Chemistry for admission should take Electrical Engineering 2 and 26 or Electrical Engineering 16.

#### Course of Study

# Required for the Degree of B.S. in Architectural Decoration

FIRST	YEAR
First Semester	SECOND SEMESTER
Subject — S. H. <sup>1</sup>	Subject — S. H. <sup>1</sup>
GeneralEngineeringDrawing(G.E.D.1) <sup>2</sup> 4	Descriptive Geometry (G. E. D. 2) 4
Trigonometry (Math. 4)	Analytical Geometry (Mathe. 6) 5
Advanced Algebra (Math. 2) 3	French 1, German 3 or 5 or 6, or Eng-
French 1, German 1 or 4, or English 1,	lish 2, or Rhetoric 11, or Spanish 1 4
or Spanish 1 4	Orders of Arch. (Arch. 8)
or Spanish 1	Military Drill (Mil. 2)
Military Drill (Mil. 2)	Drill Regulations (Mil. 1)
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)
Offiniasidii (Lilys. 11.1, 3)	Gynmasium (1 mys. 11.1, 3) 1
Total18	Total
10141	10ta1 19
SECONI	VEAD
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Physics Lectures (Phys. 2a) 2	Physics Lectures (Phys. 2a) 2 Physics Laboratory (Phys. 2b) 2
Physics Laboratory (Phys. 2b)	Physics Laboratory (Phys. 2b) 2
Rhetoric 1 3	Rhetoric 1 3
Wood Construction (Arch. 2) 3	Monumental Inscriptions (Arch. 37) 1
Architectural Prospective (Arch. 14) 2	Drawing from Antique (A. & D. 3) 3
Drawing from Antique (A. & D. 3) 3	Bases of Ornament (Arch. 36) 2
Bases of Ornament (Arch. 36) 2	Analysis of Pattern (Arch. 40)
Monthly Problems (Arch. 9)	Monthly Problems
Military Drill (Mil. 2)	Military Drill (Mil. 2)
Total	Total 17½
•	
THIRD	VEAR
THIRD	
First Semester	SECOND SEMESTER
Subject — First Semester S. H.	Subject — Second Semester S. H.
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6) 4	SECOND SEMESTER Subject — S. H. History of Architecture (Arch. 6) 4
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6) 4  Architectural Seminary (Arch. 11)	Second Semester Subject — S. H. History of Architecture (Arch. 6)
Subject — S. H.  History of Architecture (Arch. 6) 4  Architectural Seminary (Arch. 11) 1  Architectural Composition (Arch. 18) 3	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6)	SECOND SEMESTER Subject — S. H. History of Architecture (Arch. 6)
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6)	SECOND SEMESTER   S. H.
FIRST SEMESTER           Subject —         S. H.           History of Architecture (Arch. 6)	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6) 4  Architectural Seminary (Arch. 11) 1  Architectural Composition (Arch. 18) 3  Color Problems (Arch. 41) 2  Design of Ornament (Arch. 25) 3  Modeling (A. & D. 8a)	SECOND SEMESTER   S. H.
FIRST SEMESTER           Subject —         S. H.           History of Architecture (Arch. 6)	SECOND SEMESTER   S. H.
FIRST SEMESTER           Subject —         S. H.           History of Architecture (Arch. 6)         4           Architectural Seminary (Arch. 11)         1           Architectural Composition (Arch. 18)         3           Color Problems (Arch. 41)         2           Design of Ornament (Arch. 25)         3           Modeling (A. & D. 8a)         2           History and Criticism of Art (Arch. 29b)         1           Monthly Problems (Arch. 9)         1	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  History of Architecture (Arch. 6) 4  Architectural Seminary (Arch. 11) 1  Architectural Composition (Arch. 18) 3  Color Problems (Arch. 41) 2  Design of Ornament (Arch. 25) 3  Modeling (A. & D. 8a)	SECOND SEMESTER   S. H.
FIRST SEMESTER           Subject —         S. H.           History of Architecture (Arch. 6)         4           Architectural Seminary (Arch. 11)         1           Architectural Composition (Arch. 18)         3           Color Problems (Arch. 41)         2           Design of Ornament (Arch. 25)         3           Modeling (A. & D. 8a)         2           History and Criticism of Art (Arch. 29b)         1           Monthly Problems (Arch. 9)         1	SECOND SEMESTER   S. H.
FIRST SEMESTER           Subject —         S. H.           History of Architecture (Arch. 6)         4           Architectural Seminary (Arch. 11)         1           Architectural Composition (Arch. 18)         3           Color Problems (Arch. 41)         2           Design of Ornament (Arch. 25)         3           Modeling (A. & D. 8a)         2           History and Criticism of Art (Arch. 29b)         1           Monthly Problems (Arch. 9)         1	SECOND SEMESTER   S. H.
First Semester   S. H.	SECOND SEMESTER   S. H.
Subject	SECOND SEMESTER   Subject   S. H.
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.
First Semester   S. H.	SECOND SEMESTER   S. H.
FIRST SEMESTER   S. H.	SECOND SEMESTER   S. H.

<sup>&</sup>lt;sup>1</sup>Semester hours. See General Description of Courses, Part III.

<sup>2</sup>The numbers in parenthesis refer to courses in the General Description of Courses.

### Required for the Degree of B.S. in Civil Engineering

#### FIRST YEAR

FIRST SEMESTER   S. H.1	SECOND SEMESTER   S. H.1
SECOND	YEAR
First Semester   S. H.	SECOND SEMESTER   SUbject - SECOND SEMESTER   Subject - SECOND SEMESTER   Subject - SECOND SEMESTER   Subject - Su
THIRD	TEAD
First Semester   S. H.	Subject
FOURTE	IVEAR
First Semester	SECOND SEMESTER
Subject       S. H.         Masonry Contsruction (C. E. 5)       5         Bridge Analysis (C. E. 12)       2         Bridge Details (C. E. 13)       3         Tunneling (C. E. 18)       1         Metal Structures (C. E. 24)       1         Water Supply Engineering (M. & S. E. ,       2)         4       Thesis (C. E. 30)       1	Subject — S. H.  Bridge Design (C. E. 14)

<sup>&</sup>lt;sup>1</sup>Semester hours. See General Description of Courses, Part III.

<sup>2</sup>The numbers in parenthesis refer to courses in the General Description of Courses, Part III.

<sup>3</sup>Students who have offered Chemistry for admission must take Electrical Engineering 2 and 26 instead of Chemistry 1; and students who have received advance credit for Chemistry 1 may take the above subjects in place of Chemistry.

# Required for the Degree of B.S. in Electrical Engineering FIRST YEAR

F1K51	
First Semester	SECOND SEMESTER
Subject — S. H.1	Subject — S. H.1
GeneralEngineeringDrawing(G.E.D.1) <sup>2</sup> 4	Descriptive Geometry (G. E. D. 2) 4
Trigonometry (Math. 4) 2	Analytical Geometry (Math. 6) 5
Advanced Algebra (Math. 2) 3	French 1, or German 3 or 5 or 6, or Eng-
French 1, or German 1 or 4, or English	lish 2 or Rhetoric 11, or Spanish 1 4
r, or Spanish r 4	Shop Practice (M. E. 1)
Chan Descript (M. F. a)	
Shop Practice (M. E. 1)	Military Drill (Mil. 2)
Military Drill (Mil. 2)	Drill Regulations (Mil. 1) 1
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)
nimetalia .	- International Control of the Contr
Total 18	Total
Total 18	Total
SECOND	YEAR
First Semester	SECOND SEMESTER
Subject — S. H.	Subject - S. H
Differential Calculus (Math. 7) 5	Integral Calculus (Math. 9) 3
Physics Lectures (Phys. 1)	Physics Lectures (Phys. 3)
Physics Laboratory (Phys. 3)	Physics Laboratory (Phys. 3)
Rhetoric 1 3	Rhetoric 1 3
Marking Chan (M. F. a)	Apolytical Machanics (T. St. A. M. w)
Machine Shop (M. E. 2)	Analytical Mechanics (T. & A. M. 7) 3
Machine Design (M. E. 4) 2½	Machine Shop (M. E. 2)
Military Drill (Mil. 2)	Mechanism (M. E. 5)
	Military Drill (Mil. 2) 1
Total	
Total	m + 1
	Total 19
IHIKL	YEAR
FIRST SEMESTER	SECOND SEMESTER
Subject — FIRST SEMESTER S. H.	Subject — Subject S. H.
FIRST SEMESTER Subject — S. H. Analytical Mechanics (T. & A. M. 8). 2½	SECOND SEMESTER Subject — S. H. Hydraulics (T. & A. M. 10)
FIRST SEMESTER Subject — S. H. Analytical Mechanics (T. & A. M. 8). 2½	SECOND SEMESTER Subject — S. H. Hydraulics (T. & A. M. 10)
FIRST SEMESTER Subject — S. H. Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 9) 3½	Second Semester S. H. Hydraulics (T. & A. M. 10)
FIRST SEMESTER  S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 9) 3½ Engineering Materials (T. & A. M. 6). 1	SECOND SEMESTER S.H. Hydraulics (T. & A. M. 10) 3 Alternating Currents (E. E., 5) 4 Electrical and Magnetic Measurements
Subject — S. H. Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 3½ Engineering Materials (T. & A. M. 6) 1 Dynamo Electrical Machinery (E.E.16) 4	SECOND SEMESTER S.H. Hydraulics (T. & A. M. 10) 3 Alternating Currents (E. E., 5) 4 Electrical and Magnetic Measurements
Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 0) 3½ Engineering Materials (T. & A. M. 6). 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements	Second Semester Subject Hydraulics (T. & A. M. 10)
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 3½ Engineering Materials (T. & A. M. 6) 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2	SECOND SEMESTER Subject—S. H. Hydraulics (T. & A. M. 10)
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 3½ Engineering Materials (T. & A. M. 6) 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2	SECOND SEMESTER Subject—S. H. Hydraulics (T. & A. M. 10)
Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 0) 3½ Engineering Materials (T. & A. M. 6). 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements	Second Semester   S. H.
Subject — S. H. Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 1 Engineering Materials (T. & A. M. 6) 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2 Chemistry 1³. 4	SECOND SEMESTER Subject—S. H. Hydraulics (T. & A. M. 10)
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 3½ Engineering Materials (T. & A. M. 6) 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2	SECOND SEMESTER   S. H.
Subject — S. H. Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 1 Engineering Materials (T. & A. M. 6) 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2 Chemistry 1³. 4	Second Semester   S. H.
Subject -   S. H.	SECOND SEMESTER   S. H.
Subject -   S. H.	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 3½ Engineering Materials (T. & A. M. 6) 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4) 2 Chemistry 1³. 4  Total. 17	SECOND SEMESTER   S. H.
Subject	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½   Resistance of Materials (T. & A. M. 6)   3½   Engineering Materials (T. & A. M. 6)   1   Dynamo Electrical Machinery (E.E.16)   4   Electrical and Magnetic Measurements (Phys. 4)   2   Chemistry 1²   4	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½   Resistance of Materials (T. & A. M. 9)   3½   Resistance of Materials (T. & A. M. 6)   1	SECOND SEMESTER   S. H.
Subject	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 0) 3½ Engineering Materials (T. & A. M. 6). 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2 Chemistry 1². 4  Total. 17  FOUR  FIRST SEMESTER  Subject — S. H.  Advanced Alternating Currents (E. E. 14). 3 Electrical Distribution (E. E. 15) 3 Electrical Engineering Laboratory E.E 23). 3	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6) 3½ Engineering Materials (T. & A. M. 6). 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2 Chemistry 1³. 4  Total. 17  FOUR  FIRST SEMESTER  S. H.  Advanced Alternating Currents (E. E.  14). 3 Electrical Distribution (E. E. 15). 3 Electrical Engineering Laboratory E.E  23). 3 Electrical Design (E. E. 32). 2	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 0) 3½ Engineering Materials (T. & A. M. 6). 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2 Chemistry r³. 4  Total. 17  FOUR  FIRST SEMESTER  Subject — S. H.  Advanced Alternating Currents (E. E. 14). 3 Electrical Distribution (E. E. 15). 3 Electrical Engineering Laboratory E.E 23). 3 Electrical Design (E. E. 32). 2 Seminary (E. E. 13). 1	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 0) 3½ Engineering Materials (T. & A. M. 6). 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2 Chemistry r³. 4  Total. 17  FOUR  FIRST SEMESTER  Subject — S. H.  Advanced Alternating Currents (E. E. 14). 3 Electrical Distribution (E. E. 15). 3 Electrical Engineering Laboratory E.E 23). 3 Electrical Design (E. E. 32). 2 Seminary (E. E. 13). 1	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½   Resistance of Materials (T. & A. M. 9)   3½   Resistance of Materials (T. & A. M. 6)   1   Dynamo Electrical Machinery (E.E.16)   4   Electrical and Magnetic Measurements (Phys. 4)   2   Chemistry 1³   4     Total   17      Total   Trotal   Trotal   17      FOUR   FIRST SEMESTER   S. H.   Advanced Alternating Currents (E. E. 14)   3   Electrical Distribution (E. E. 15)   3   Electrical Engineering Laboratory E.E   23   2   Seminary (E. E. 13)   1   Thermodynamics (M. E. 15)   3   3   3   1   Thermodynamics (M. E. 15)   3   3	SECOND SEMESTER   S. H.
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 0) 3½ Engineering Materials (T. & A. M. 6). 1 Dynamo Electrical Machinery (E.E.16) 4 Electrical and Magnetic Measurements (Phys. 4). 2 Chemistry r³. 4  Total. 17  FOUR  FIRST SEMESTER  Subject — S. H.  Advanced Alternating Currents (E. E. 14). 3 Electrical Distribution (E. E. 15). 3 Electrical Engineering Laboratory E.E 23). 3 Electrical Design (E. E. 32). 2 Seminary (E. E. 13). 1	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½   Resistance of Materials (T. & A. M. 9)   3½   Resistance of Materials (T. & A. M. 6)   1   Dynamo Electrical Machinery (E.E. 16)   4   Electrical and Magnetic Measurements (Phys. 4)   2   Chemistry 1²   4     4   Total   17      Total	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½   Resistance of Materials (T. & A. M. 9)   3½   Resistance of Materials (T. & A. M. 6)   1   Dynamo Electrical Machinery (E.E.16)   4   Electrical and Magnetic Measurements (Phys. 4)   2   Chemistry 1³   4     Total   17      Total   Trotal   Trotal   17      FOUR   FIRST SEMESTER   S. H.   Advanced Alternating Currents (E. E. 14)   3   Electrical Distribution (E. E. 15)   3   Electrical Engineering Laboratory E.E   23   2   Seminary (E. E. 13)   1   Thermodynamics (M. E. 15)   3   3   3   1   Thermodynamics (M. E. 15)   3   3	SECOND SEMESTER   S. H.
Subject — S. H.   Analytical Mechanics (T. & A. M. 8)   2½   Resistance of Materials (T. & A. M. 9)   3½   Resistance of Materials (T. & A. M. 6)   1   Dynamo Electrical Machinery (E.E. 16)   4   Electrical and Magnetic Measurements (Phys. 4)   2   Chemistry 1²   4     4   Total   17      Total	SECOND SEMESTER   S. H.

<sup>&</sup>lt;sup>1</sup> Semester hours. See General Description of Courses, Part III.

<sup>2</sup> The numbers in parenthesis refer to courses in the General Description of Courses, Part III.

<sup>&</sup>lt;sup>3</sup> Students who have offered the equivalent of Chemistry 1 for admission should take other approved courses to make four semester hours.

<sup>4</sup> Electrives amounting to two semester hours should be chosen from the following: Electrical Engineering 4, Electrical Engineering 12, Railway Engineering 61.

# Required for the Degree of B.S. in Mechanical Engineering

	YEAR	
FIRST SEMESTER	SECOND SEMESTER	
Subject — S. H.1	Subject — S. H.	
GeneralEngineeringDrawing(G.E.D.1) <sup>2</sup> Trigonometry (Math. 4)	Descriptive Geometry (G. E. D2) 4 Analytical Geometry (Math. 6) 5	
Advanced Algebra (Math. 2)	French 1, or German 3 or 5 or 6, or	
French 1, or German 1 or 4, or English	English 2, or Rhetoric 11, or Spanish 1	
I, or Spanish I4	Shop Practice (M. E. 1)	
Shop Practice (M. E. 1)	Military Drill (Mil. 2)	
Military Drill (Mil. 2)	Drill Regulations (Mil. 1)	
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)	
Total	Total	
SECÓ	ND YEAR	
FIRST SEMESTER	SECOND SEMESTER	
Subject— S. H.	Subject — S. H.	
Differential Calculus (Math. 7) 5	Integral Calculus (Math. 9) 3	
Physics Lectures (Phys. 1)	Physics Lectures (Phys. 1)	
Physics Laboratory (Phys. 3)	Physics Laboratory (Phys. 3)	
Machine Shop (M. E. 2)	Rhetoric 1	
Machine Design (M. E. 4) 2½	Machine Shop (M. E. 2)	
Military Drill (Mil. 2) 1	Mechanism (M. E. 5)	
	Military Drill (Mil. 2)	
Total	Total 19	
THIN	YEAD	
	YEAR STORES	
FIRST SEMESTER	SECOND SEMESTER	
Subject - S. H.	Subject — Second Semester S. H	
FIRST SEMESTER S. H. Analytical Mechanics (T. & A. M. 8)23 Resistance of Materials (T. & A. M. 9) 35	Second Semester  Subject — S. H Hydraulics (T. & A. M. 10)	
FIRST SEMESTER Subject — Analytical Mechanics (T. & A. M. 8)2 Resistance of Materials (T. & A. M. 6)1 Engineering Materials (T. & A. M. 6)1	Subject — SECOND SEMESTER S. H Hydraulics (T. & A. M. 10)	
FIRST SEMESTER Subject S. H. Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 9) 3½ Engineering Materials (T. & A. M. 6). 1 Steam Engineering (M. E. 23)	Second Semester  S. H Hydraulics (T. & A. M. 10)	
FIRST SEMESTER Subject — S. H. Analytical Mechanics (T. & A. M. 8)2½ Resistance of Materials (T. & A. M. 9) .3½ Engineering Materials (T. & A. M. 6) I Steam Engineering (M. E. 23)	Subject — S. H. Hydraulics (T. & A. M. 10)	
FIRST SEMESTER  Subject S. H.  Analytical Mechanics (T. & A. M. 8)	SECOND SEMESTER           Subject —         S. H           Hydraulics (T. & A. M. 10)         3           Thermodynamics (M. E. 7)         3           Steam Engineering (M. E. 23)         1½           Power Measurements (M. E. 3)         1½           Engineering Chemistry (Chem. 16)         3           Seminary (M. E. 29)         1	
FIRST SEMESTER  Subject S. H.  Analytical Mechanics (T. & A. M. 8)	SECOND SEMESTER           Subject —         S. H           Hydraulics (T. & A. M. 10)         3           Thermodynamics (M. E. 7)         3           Steam Engineering (M. E. 23)         1½           Power Measurements (M. E. 3)         1½           Engineering Chemistry (Chem. 16)         3           Seminary (M. E. 29)         1           Surveying (C. E. 10)         2	
FIRST SEMESTER  Subject — Analytical Mechanics (T. & A. M. 8), .22 Resistance of Materials (T. & A. M. 9) 34 Engineering Materials (T. & A. M. 6), .1 Steam Engineering (M. E. 23), 12 Power Measurements (M. E. 3) 12 Graphic Statics (M. E. 18), 2	SECOND SEMESTER           Subject —         S. H           Hydraulics (T. & A. M. 10)         3           Thermodynamics (M. E. 7)         3           Steam Engineering (M. E. 23)         1½           Power Measurements (M. E. 3)         1½           Engineering Chemistry (Chem. 16)         3           Seminary (M. E. 29)         1	
FIRST SEMESTER  Subject S. H.  Analytical Mechanics (T. & A. M. 8)	SECOND SEMESTER           Subject —         S. H           Hydraulics (T. & A. M. 10)         3           Thermodynamics (M. E. 7)         3           Steam Engineering (M. E. 23)         1½           Power Measurements (M. E. 3)         1½           Engineering Chemistry (Chem. 16)         3           Seminary (M. E. 29)         1           Surveying (C. E. 10)         2	
FIRST SEMESTER  Subject —  Analytical Mechanics (T. & A. M. 8)	Second Semester   S. H	
First Semester   S. H.	Second Semester   S. H	
First Semester   S. H.	Subject	
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8)	Second Semester   S. H	
FIRST SEMESTER  Subject —  Analytical Mechanics (T. & A. M. 8)	Subject	
FIRST SEMESTER  Subject— Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6). 3½ Engineering Materials (T. & A. M. 6). 1½ Engineering Materials (T. & A. M. 6). 1½ Flower Measurements (M. E. 23). 1½ Graphic Statics (M. E. 18). 2 Seminary (M. E. 29). 1 Chemistry 1² or Elec. Eng'g (E. E. 16). 4  Total. 17  FOURT  FIRST SEMESTER Subject—	Second Semester   S. H	
FIRST SEMESTER  Subject— Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6). 3½ Engineering Materials (T. & A. M. 6). 1½ Engineering Materials (T. & A. M. 6). 1½ Flower Measurements (M. E. 23). 1½ Graphic Statics (M. E. 18). 2 Seminary (M. E. 29). 1 Chemistry 1² or Elec. Eng'g (E. E. 16). 4  Total. 17  FOURT  FIRST SEMESTER Subject—	Subject	
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8)	Second Semester   S. H	
FIRST SEMESTER  Subject— Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 6). 3½ Engineering Materials (T. & A. M. 6). 1½ Engineering Materials (T. & A. M. 6). 1½ Flower Measurements (M. E. 23). 1½ Graphic Statics (M. E. 18). 2 Seminary (M. E. 29). 1 Chemistry 1² or Elec. Eng'g (E. E. 16). 4  Total. 17  FOURT  FIRST SEMESTER Subject—	Subject	
FIRST SEMESTER  Subject—  Analytical Mechanics (T. & A. M. 8). 22 Resistance of Materials (T. & A. M. 9) 32 Resistance of Materials (T. & A. M. 6). 12 Engineering Materials (T. & A. M. 6). 12 Steam Engineering (M. E. 23). 12 Power Measurements (M. E. 23). 12 Graphic Statics (M. E. 18). 2 Seminary (M. E. 29). 1 Chemistry 12 or Elec. Eng'g (E. E. 16). 4  Total. 17  FOURT  FIRST SEMESTER  Subject—  Heat Engines (M. E. 6). 3 Mechanics of Machinery (M. E. 8). 2 Machine Design (M. E. 9). 3 Mechanics of Machinery (M. E. 12). 3 Seminary (M. E. 19). 1 Elect. Eng'g (E. E. 6) or (E. E. 21). 2 Principles of Economics (Econ. 2). 2	Second Semester   S. H	
FIRST SEMESTER  Subject — S. H.  Analytical Mechanics (T. & A. M. 8)	Subject	

¹ Semester hours. See General Description of Courses, Part III.
² The numbers in parenthesis refer to courses in the General Description of Courses, Part III.
² Students who have had the equivalent of Chemistry I may take in succession Electrical Engineering 16. 25, and 6. Students who have not had Chemistry must elect Chemistry I, and follow with Electrical Engineering I and 21.

Required for the Degree of B.S. in Municipal and Sanitary Engincering

FIRST Y	ZAR
FIRST SEMESTER	Second Semester
Subject — S. H. <sup>1</sup>	Subject — S. H 1
General Engineering Drawing (G.E.D.1) <sup>2</sup> 4	Descriptive Geometry (G. E. D.2) 4
Trigonometry (Math. 4)	Analytical Geometry (Math. 6) 5
Advanced Algebra (Math. 2)	French 1, or German 3 or 5 or 6, or English 2, or Rhetoric, 11, or Spanish 1 4
i, or Spanish i 4	
Shop Practice (M. E. 1)	Military Drill (Mil. 2)
Military Drill (Mil. 2)	Drill Regulations (Mil. 1) 1
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)
Total 18	Total
SECO	ND YEAR
FIRST SEMESTER	ND YEAR  Second Semester  Subject — S. H.
Subject — S. H.	Subject — S. H.
Differential Calculus (Math. 7) 5	Integral Calculus (Math. 9) 3
Physics Lectures (Phys. 1)	Physics Lectures (Phys. 1)
Physics Laboratory (Phys. 3) 2	Physics Laboratory (Phys. 3) 2
Rhetoric 1	Rhetoric 1
Military Drill (Mil. 2)	Topograph, Surveying (C. E. 22) 4
	Railroad Curves (C. E. 23)
Total	Military Drill (Mil. 2) I
	Total19
THIRI	YEAR
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Analytical Mechanics (T. & A. M. 8). 2½ Resistance of Materials (T. & A. M. 9) 3½	Hydraulics (T. & A. M. 10)
Resistance of Materials (T. & A. M.9) 3½ Engineering Materials (T. & A. M. 6).	Graphic Statics (C. E. 20)
Bacteriology (M. & S. E. 5a)	Steam Engines and Boilers (M. E. 11) 3
Railroad Location and Construction	Chemistry 2, 3, 10b 5
(C. E. 4a) 3	Electrical Engineering 1 2
Chemistry 1 4	T-4-1
Total	Total
10.2	
	H YEAR
First Semester	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Water Supply Engineering (M. & S. E.	Sewerage (M. & S. E. 3)
Water Purification, Sewage Disposal,	and General Sanitation (M. & S. E.
and General Sanitation (M. & S. E.	6b) 3
6a) 2	Bridge Design (C. E. 14a) 3
Masonry Construction (C. E. 5) 5	Engineering Contracts and Specifications (C. E. 16)
Bridge Analysis (C. E. 12)	Mechanical Engineering Laboratory
Electrical Engineering 28	(M. E. 13) 2
	Principles of Economics (Econ. 2) 2
Total 17	Thesis (M. & S. E. 30)

Semester hours. See General Description of Courses, Part III.
 The numbers in parentheses refer to courses in the General Description of Courses, Part III.

### Course of Study

## Required for the Degree of B.S. in Railway Civil Engineering\*

FIRST Y	EAR
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.1	Subject — S. H.1
General Engineering Drawing(G.E.D.1) 4 Trigonometry (Math. 4)	Descriptive Geometry (G. E. D.2) 4 Analytical Geometry (Math. 6) 5
Trigonometry (Math. 4)	French 1, or German 3 or 5 or 6, or Eng-
French 1, or German 1 or 4, or English	glish 2, or Rhetroic 11, or Spanish 1 4
I, or Spanish I 4	Shop Practice (M. E. 1)
Shop Practice (M. E. 1)	Military Drill (Mil. 2)
Military Drill (Mil. 2)	Drill Regulations (Mil. 1)
Gymnasium (Phys. Tr. 1, 3) 1	Gymnasium (Phys. Tr. 1, 3)
Total 18	Total 1
SECOND	YEAR 9
First Semester	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Differential Calculus (Math. 7) 5	Integral Calculus (Math. 9)
Physics Lectures (Phys. 1)	Physics Lectures (Phys. 1)
Physics Laboratory (Phys. 3)	Physics Laboratory (Phys. 3)
Rhetoric 1	Rhetoric 1
Military Drill (Mil. 2)	Topograph. Surveying (C. E. 22) 4
<del></del>	Railroad Curves (C. E. 23)
Total 19	Military Drill (Mil. 2) 1
	Total19
THIRD !	YEAR
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Analytical Mechanics (T. & A. M. 8) . 2½	Hydraulics (T. & A. M., 10)
Resistance of Materials (T. & A. M.9). 3½ Engineering Materials (T. & A. M. 6). 1	Railway Yards and Terminals (Ry. E.
Railroad Location Construction and	Railways Structures (Ry. E. 32)
Railroad Location, Construction and Maintenance (C. E. 4) 5	Graphic Statics (C. E. 20)
Chemistry 13 4	Steam Engines and Boilers (M. E. 11). 3
	Astronomy 3 and 6, or Geology 13 5
Total	Principles of Economics (Econ. 2)2
	Total
FOURTH	
FIRST SEMESTER	YEAR SECOND SEMESTER
Subject — FIRST SEMESTER S. H.	YEAR Second Semester Subject — S. H.
Subject — S. H. Economic Theory of Railway Location	YEAR SECOND SEMESTER Subject — S. H. Foreign Railway Systems (Econ. 47) 2
Subject — S. H. Economic Theory of Railway Location	YEAR  Subject — S. H. Foreign Railway Systems (Econ. 47). 2 Signal Engineering (Ry. E. 35) 2
Subject — S. H. Economic Theory of Railway Location (Ry. E. 33)	YEAR         Second Semester         S. H.           Subject — S. H.         Solignal Engineering (Ry. E. 35)
FIRST SEMESTER   S. H.	YEAR           Second Semester           Subject —         S. H.           Foreign Railway Systems (Econ. 47).         2           Signal Engineering (Ry. E. 35).         2           Seminary (Ry. E. 50).         1           Railway Administration (Econ. 42).         3           Bridge Design (C. E. 14a).         3
Subject - S. H.	YEAR           Subject         S. H.           Foreign Railway Systems (Econ. 47).         2           Signal Engineering (Ry. E. 35).         2           Seminary (Ry. E. 50).         1           Railway Administration (Econ. 42).         3           Bridge Design (C. E. 14a).         3           Engineering Contracts and Specifica-
FIRST SEMESTER   S. H.	YEAR           Second Semester           Subject —           Foreign Railway Systems (Econ. 47).         2           Signal Engineering (Ry. E. 35).         2           Seminary (Ry. E. 50).         1           Railway Administration (Econ. 42).         3           Bridge Design (C. E. 14a).         3           Engineering Contracts and Specifications (C. E. 16).         2
Subject - S. H.	YEAR           Subject         S. H.           Foreign Railway Systems (Econ. 47).         2           Signal Engineering (Ry. E. 35).         2           Seminary (Ry. E. 50).         1           Railway Administration (Econ. 42).         3           Bridge Design (C. E. 14a).         3           Engineering Contracts and Specifica-

Total..... 17

Semester hours. See General Description of Courses, Part III.
 The numbers in parentheses refer to courses in General Description of Courses, Part III.
 Students who have offered Chemistry for admission must take Electrical Engineering and 26 instead of Chemistry 1; and the students who have received advanced credit for Chemistry 1 may take the above subjects in place of Chemistry.
 \* Differs from course in civil engineering only after first semester of third year.

Required for the Degree of B.S. in Railway Electrical Engineering \*

FIRST	VEAR
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.1	Subject — S. H.1
GeneralEngineeringDrawing(G.E.D.1)2 4	Descriptive Geometry (G. E. D. 2) 4
Trigonometry (Math. 4) 2	Analytical Geometry (Math. 6) 5
Advanced Algebra (Math. 2) 3	French 1, or German 3 or 5 or 6, or En-
French 1, or German 1 or 4, or English	glish 2, or Rhetoric 11, or Spanish 1 4
1, or Spanish 1	Shop Practice (M. E. 1)
Shop Practice (M. E.1) 3	Military Drill (Mil. 2) I
Military Drill (Mil. 2)	Drill Regulations (Mil. 1)
Gymnasium (Phys. Tr. 1, 3)	Gymnasium (Phys. Tr. 1, 3)
Total 18	Total
SECOND	YEAR
FIRST SEMESTER	SECOND SEMESTER
Subject — S. H.	Subject — S. H.
Differential Calculus (Math. 7) 5	Integral Calculus (Math. 9) 3
Physics Lectures (Phys. 1)	Physics Lectures (Phys. 1)
Physics Laboratory (Phys. 3) 2	Physics Laboratory (Phys. 3) 2
Rhetoric 1 3	Rhetoric 1
Machine Shop (M. E. 2) 2½	Analytical Mechanics (T. & A. M. 7). 3
Machine Design (M. E. 4) 2½	Machine Shop (M. E. 2) 21
Military Drill (Mil. 2) 1	Mechanism (M. E. 5)
	Military Drill (Mil. 2)
Total19	773 + 1
	Total 19
THIRD	YEAR
First Semestr	SECOND SEMESTER
Subject — FIRST SEMESTR S. H.	Subject — Second Semester S. H.
FIRST SEMESTR Subject — S. H. Analytical Mechanics (T. & A. M. 8) . 2½	SECOND SEMESTER Subject — S. H. Hydraulics (T. & A. M. 10)
FIRST SEMESTR S. H. Analytical Mechanics (T. & A. M. 8) . 2½ Resistance of Materials (T. & A. M. 9) 3½	Subject         S. H.           Hydraulics (T. & A. M. 10)
Subject — S. H. Analytical Mechanics (T. & A. M. 8) . 2½ Resistance of Materials (T. & A. M. 9) 3½ Engineering Materials (T. & A. M. 6), 1	Subject         S. H.           Hydraulics (T. & A. M. 10)
FIRST SEMESTR S. H. Analytical Mechanics (T. & A. M. 8) . 2½ Resistance of Materials (T. & A. M. 0) 3½ Engineering Materials (T. & A. M. 6) . Dynamo-Electric Machinery (E. E. 16) 4	Second Semester   S. H.
Subject — S. H.  Analytical Mechanics (T. & A. M. 8) . 2½ Resistance of Materials (T. & A. M. 6) . 1 Dynamo-Electric Machinery (E. E. 16) 4 Electrical & Magnetic Measurements	SECOND SEMESTER Subject—S. H. Hydraulics (T. & A. M. 10)
Subject — S. H. Analytical Mechanics (T. & A. M. 8) . 2½ Resistance of Materials (T. & A. M. 9) . 3½ Engineering Materials (T. & A. M. 6) . 1 Dynamo-Electric Machinery (E. E. 16) 4 Electrical & Magnetic Measurements (Phys. 4)	SECOND SEMESTER Subject—S. H. Hydraulics (T. & A. M. 10)
Subject — S. H.  Analytical Mechanics (T. & A. M. 8) . 2½ Resistance of Materials (T. & A. M. 6) . 1 Dynamo-Electric Machinery (E. E. 16) 4 Electrical & Magnetic Measurements	SECOND SEMESTER Subject—S. H. Hydraulics (T. & A. M. 10)
Subject	Second Semester   S. H.
Subject — S. H. Analytical Mechanics (T. & A. M. 8) . 2½ Resistance of Materials (T. & A. M. 9) . 3½ Engineering Materials (T. & A. M. 6) . 1 Dynamo-Electric Machinery (E. E. 16) 4 Electrical & Magnetic Measurements (Phys. 4)	SECOND SEMESTER   S. H.
Subject	SECOND SEMESTER Subject—S. H. Hydraulics (T. & A. M. 10)
Subject	SECOND SEMESTER   S. H.
Subject	SECOND SEMESTER   S. H.
Subject	SECOND SEMESTER   S. H.
Subject —   S. H.   Analytical Mechanics (T. & A. M. 8)   2½   Resistance of Materials (T. & A. M. 9)   3½   Engineering Materials (T. & A. M. 6)   1   Dynamo-Electric Machinery (E. E. 16)   4   Electrical & Magnetic Measurements (Phys. 4)   2   Chemistry 1³   4   4   Total   17   FOURT!   FIRST SEMESTER   S. H.   S. H.	SECOND SEMESTER   S. H.
Subject	Second Semester   S. H.

Semester hours. See General Description of Courses, Part III.
 The numbers in parentheses refer to the courses in the General Description of Courses

Part III.

2 Students who have offered the equivalent of Chemistry 1 for admission should take other approved courses to make up the four semester hours.

\*Differs from course in electrical engineering in the fourth year only.

Required for the Degree of B.S. in Railway Mechanical Engineering \*

FIRST   Subject	YEAR         St. M.1           Subject —         S. H.1           Descriptive Geometry (G. E. D.2)         4           Analytical Geometry (Math. 6)         5           French 1, or German 3 or 5 or 6, or English 2, or Rhetoric 11, or Spanish 1.         4           Shop Practice (M. E. 1)         3           Military Drill Mil. 2)         1           Drill Regulations (Mil. 1)         1           Gymnasium (Phys. Tr. 1, 3)         1           Total         19
SECOND   SUbject -   Subject	YEAR           Subject — Second Semester           Subject — Steller         S. H.           Integral Calculus (Math. 9)         3           Physics Lectures (Phys. 1)         2           Physics Laboratory (Phys. 3)         2           Rhetoric I         3           Analytical Mechanics (T. & A M. 7)         3           Machine Shop (M. E. 2)         2½           Mechanism (M, E. 5)         2½           Military Drill (Mil. 2)         I           Total         19
THIRD   Subject   S. H.	YEAR           Subject —         S. H.           Hydraulics (T. &. A. M. 10)         3           Thermodynamics (M. E. 2)         3           Steam Engineering (M. E. 23)         1½           Power Measurements (M. E. 3)         1½           Seminary (M. E. 29)         1           Surveying (C. E. 10)         2           Electrical Engineering (E. E. 25 or E. E. 1)         2           Engineering Chemistry (Chem. 16)         3           Total         17
FOURTH   Subject   FIRST SEMESTER   S. H.	YEAR           Subject — Second Semester           Shop and Auxiliary Equipment (Ry. E. Shop and Auxiliary Equipment (Ry. E. Shop and Auxiliary Equipment (Ry. E. 61)

Semester hours. See General Description of Courses, Part III.
 The numbers in parentheses refer to courses in the General Description of Courses, Part III.

<sup>&</sup>lt;sup>3</sup>Students who have not offered the equivalent of Chemistry for admission must take it in course, followed by Electrical Engineering 1 and Electrical Engineering 21. Those who have had Chemistry 1 take in succession Electrical Engineering 16, 25, and 6.
\*Differs from course in mechanical engineering in the fourth year only.

# THE COLLEGE OF AGRICULTURE

#### **FACULTY**

EDMUND JANES JAMES, Ph.D., LL.D., President EUGENE DAVENPORT, M.Agr., LL.D., Dean

#### In Agronomy-

CYRL GEORGE HOPKINS, Ph.D., Professor of Agronomy LOUIE HENRIE SMITH, Ph.D., Assistant Professor, Plant Breeding

ALBERT NASH HUME, M.S., Associate, Crop Production ORLO DORR CENTER, B.S., Instructor, Crop Production LEONARD HEGNAUER B.S., Instructor, Crops

WILLIAM GEORGE ECKHARDT. B.S., Assistant, Soil Fertility
AXEL FERDINAND GUSTAFSON, B.S., Assistant, Soil Physics
ARTHUR LUMBRICK, B.S., Assistant, Crop Production

ARTHUR LUMBRICK, B.S., Assistant, Crop Production Earl Archibald White, B.S., Assistant, Agricultural Mechanics

# In Animal Husbandry-

HERBERT WINDSOR MUMFORD, B.S., Professor of Animal Husbandry.

HARRY SANDS GRINDLEY, Sc.D., Professor, Animal Chemistry Phillip Bovier Hawk, Ph.D., Professor, Physiological Chemistry

WILLIAM DIETRICH, M.S., Assistant Professor, Swine Husbandry Louis Dixon Hall, M.S., Associate, Animal Husbandry Rufus Chauncey Obrecht, M.S., Associate, Horse Husbandry Walter Castella Coffey, B.S., Associate, Sheep Husbandry Harry Orson Allison, B.S., Instructor, Animal Husbandry

# In Dairy Husbandry-

WILBER JOHN FRASER, M.S., Professor of Dairy Husbandry CARL EMIL LEE, B.S., Assistant Professor, Dairy Manufactures CASSIUS CLAY HAYDEN, B.S.A., Associate, Dairy Husbandry CLYDE BESTOR COLEMAN, B.S., Instructor, Dairy Husbandry NELSON WILLIAM HEPBURN, B.S., Assistant, Dairy Manufactures ROYDEN EARL BRAND, Assistant, Dairy Husbandry

### In Horticulture- .

JOSEPH CULLEN BLAIR, M.S.A., Professor of Pomology

CHARLES SPENCER CRANDALL, M.S., Associate Professor, Pomology

JOHN WILLIAM LLOYD, M.S.A., Assistant Professor, Olericulture ALANSON PHELPS WYMAN, B.S.A., Assistant Professor, Landscape Gardening

HERMAN BERNARD DORNER, B.S., Instructor, Floriculture

HORACE FAIRCHILD MAJOR, B.S.A., Instructor, Landscape Gardening

### In Household Science-

ISABEL BEVIER, Ph.M., Professor of Household Science

Susannah Usher, B.S., Assistant Professor, Dietetics

Anna VanMeter, M.S., Assistant Professor, Household Science Charlotte Gibes, M.S., Instructor, Textiles

HELENA MAUD PINCOMB, B.S., Instructor, Household Science for Secondary Schools

NELLIE ESTHER GOLDTHWAITE, Ph.D., Research Assistant in Household Science

### In Thremmatology-

EUGENE DAVENPORT, M.Agr., LL.D., Professor of Thremmatology

# In Veterinary Science—

DONALD McIntosh, V.S., Professor of Veterinary Science

# In Agricultural College Extension-

Fred Henry Rankin, Superintendent, with rank of Assistant Professor

DANIEL OTIS BARTO, B.S., Instructor, Secondary School Agriculture

LEONARD HEGNAUER, B.S., Assistant

#### **PURPOSES**

This College offers courses of instruction to both men and women. The courses offered to men are designed for three distinct purposes; first, and mainly, to train for the profession of farming; second, to train for the teaching of agriculture in the public schools; third, to train for the profession of landscape gardening.

The courses for women are offered by the department of house-hold science, having two distinct purposes in view: first, and mainly,

to train young women in the science and art of household affairs; second, to prepare teachers for giving instruction in domestic science in high schools, and, in connection with the college of science, to fit for college and university positions.

In the case of both men and women the great purpose is to prepare for the practical affairs of life. The agricultural courses therefore appeal to those who desire to become farmers, while the household science courses appeal to the women of the university in general, and to all others who for any reason are interested in the affairs of the home without regard to educational preferences or considerations of residence.

The College offers something over ninety courses of instruction in technical subjects, besides opportunity to elect liberally from the scientific and literary offerings of the other colleges of the University. With a few exceptions the student is left entirely free to select those subjects which seem best fitted to meet his needs, always under the advice and guidance of the faculty. The student is not obliged to consume his time with what he does not want in order to get what he needs. In this way the instruction can be more thorough in the courses elected, and time saved for related subjects in the arts and sciences. The influence of the faculty is exerted to induce the student to divide his time about equally between the technical offerings of this College and the closely related non-technical offerings of other colleges in the University.

Credit is given for all work accomplished, and this credit counts toward graduation if the student desires a degree.

### **ADMISSION**

Candidates for a degree may be admitted as in the case of the other Colleges and Schools upon presenting a certificate from a fully accredited high school, as described on page 31, upon examination, or by transfer of credits from some other college or university, as explained on pp. 30 and 38, the requirements for admission being the same as for admission to the College of Science, as described on page 80.

#### ADMISSION AS SPECIAL STUDENTS

Until students have announced their intention to work for a degree and have satisfied all entrance requirements, they are known as special students. Any student eighteen years old or over<sup>1</sup>, may

 $<sup>^1\</sup>mathrm{By}$  special permission a male student may register at sixteen provided he takes at least half of his work in the Academy.

1908-09]

enter as a special without reference to graduation, electing such work as he is prepared to pursue with profit. To continue as a special student for more than two years it is necessary to secure permission upon formal petition, stating reasons for the request. Any such student, however, who has had less than the entrance requirements in English, is required to take that subject in the University or the Academy until such deficiency is made good.

The person who remains but a short time will therefore follow but a few lines of work. If his preparation is deficient he will be confined to those subjects that require little or no previous preparation. He will also be confined to an amount which he can do thoroughly well, and will thus perform substantially the same grade of work as regular students. As the course is largely elective, credit is given for what is actually achieved.

This plan affords the students with a limited amount of time all the advantages of a short course and at the same time secures a good grade of work in the subjects studied.

# FACILITIES FOR INSTRUCTION AND METHODS OF WORK

The technical courses are highly specialized and each is taught by an instructor who makes that particular line his specialty. The close affiliation of the College with the work of the Experiment Station enables the University not only to support a larger faculty than would otherwise be possible, but it also permits a much higher degree of specialization. For the most part those who teach in the College are the ones who conduct experiments in the same subjects in the Station, a fact that greatly enriches the courses offered to students and insures that the instruction shall be up-to-date and not antiquated. The methods of instruction vary with the nature of the course. In general the laboratory method prevails. Text-books are used whenever good ones are available, and both the laboratory and the text are supplemented by lectures and reference readings.

Buildings and laboratory space are ample; illustrative specimens and material are abundant; library facilities are liberal and no pains or expense are spared to make the courses profitable to the student.

#### AGRONOMY

The Department of Agronomy gives instruction in those subjects which relate especially to the field and its affairs, as drainage,

farm machinery, field crops, the physics and bacteriology of the soil, manures, rotation and fertility, plant breeding, the history of agriculture, farm management, and comparative agriculture. The department possesses extensive equipment and facilities for instruction in these subjects and added to this are the exceptional opportunities for contact with the extensive research work of the Agricultural Experiment Station, especially along the lines of crop production, soil fertility, and plant breeding, both in the analytical and pot culture laboratories and on the experiment fields at the University and in other parts of the state, some of which are among the oldest in the United States.

#### ANIMAL HUSBANDRY

In this department are given thirty-one courses covering the separate study of sheep, swine and beef cattle and their products; heavy and light horses with their care and training; the management of herds, flocks and studs; the principles and practice of feeding and of breeding; and the chemical, physiological and bacteriological phases of animal nutrition.

For the study of animals about 400 pure-bred cattle, sheep, swine, and horses are constantly available in the herds, flock, and stud of the University, which are also used for investigations in feeding and breeding as well as for the illustration of the type or types of each breed. In addition, animals are secured to illustrate the market classes and grade of live stock. Over 600 lantern slides and a collection of photographs, charts, diagrams and models afford further material for the study of stock judging. The study of pedigrees and breeds is facilitated by 75 sets of different herd, stud and flock registers and complete files of the leading American and British live stock journals.

The equipment for instruction and investigation in the feeding, breeding, and management of live stock consists of modern buildings for the housing of beef cattle, swine, sheep and horses, with appliances for individual and collective feeding tests; brick-paved feed lots and open sheds; a feed storage barn with grinding mills and other machinery for the preparation of feed; and appliances for the training of horses; equipment for conducting demonstrations in the cutting and handling of meats; a large collection of wool samples, a fibre testing machine and microscopes for the study of wool. The chemical, physiological and bacteriological laboratories of the department afford opportunities for advanced work in animal nutrition.

#### DAIRY HUSBANDRY

The department of dairy husbandry offers twelve courses in economic milk production, city milk supply, and dairy manufactures. For the instruction in economic milk production, a free use is made of the grade herd of cows, and of the pure bred herd of Holstein-Friesian, of about 50 animals. The methods and principles of breeding and judging pure-bred dairy cattle are illustrated with this herd; types of the other dairy breeds are illustrated by a few specimen animals. The business of economic milk production is illustrated by a twenty-acre dairy farm.

The instruction in city milk supply is illustrated in a dairy building used exclusively for the purpose of cooling and bottling the milk from the pure-bred herd for direct consumption. A laboratory is also maintained, where the latest machinery for preparing milk for the trade and bottling same is used. To aid in the study of milk, a large testing laboratory is provided with the most up-to-date apparatus for making the different tests on milk.

Facilities for instruction in the manufacture of butter and cheese are abundantly provided in the University creamery, where 150 pounds of butter fat are received each day in the form of milk and hand separator cream. This creamery is equipped with the most improved types of cream separators, pasteurizers, cream ripening vats and churns.

#### HORTICULTURE

The department of horticulture offers instruction in thirty-five courses, covering work in the five divisions of horticulture (pomology, olericulture, floriculture, landscape gardening and forestry), and also in certain subjects dealing with general principles and practices more or less applicable to all the divisions, such as plant propagation, spraying, evolution of horticultural plants, and experimental horticulture.

For the instruction in pomology, free use is made of the various fruit plantations maintained by the department, including four apple orchards, a plum orchard, plantations of pears, peaches, and cherries, a vineyard of some fifty varieties of grapes, and lesser areas devoted to the various small fruits. This assortment of fruit trees and plants, affords facilities for practice in pruning, in the grading and packing of fruits, and the study of systematic pomology.

For the use of students in olericulture, areas of ground are reserved, on which garden operations are illustrated, and crops are grown. The equipment for instruction in vegetable gardening consists of hotbed frames and sash, seed drills and wheel hoes of various types, hand tools, other special tools, tying material and packing boxes, together with other accessories and appliances for the growing and handling of vegetables.

The facilities for thorough instruction in floriculture has been greatly increased by the erection of two new glasshouses, each 105x28 feet. Besides these two houses the glass structures consist of two houses each 68x20 feet and a palm house 40x24 feet. A full assortment of pots and other greenhouse supplies, together with a large collection of plants and bulbs, furnish facilities for work in amateur floriculture and certain branches of plant propagation.

The ornamental shrubs and trees growing upon the campus furnish material for plant studies in landscape gardening, while the plantings about the horticultural building and certain residences in the University community illustrate types of landscape design. A series of 500 lantern slides is used in the lectures in landscape gardening. Instruction in forestry is facilitated by an extensive collection of native woods and a forest tree plantation of some thirty acres.

#### HOUSEHOLD SCIENCE

The Department of Household Science, housed in the north wing of the Woman's Building, contains two well equipped kitchens a laboratory, pantry and dining room which give opportunity for practice in various kinds of work with food. Two rooms are devoted to the artistic and economic study of clothing. These are supplied with charts showing the history of costume and with much illustrative material in the form of textile fabrics. The lecture and recitation rooms are provided with various household appliances, house plans and materials for house furnishings.

Although the main work is scientific and technical, the importance of an artistic and literary training for home life is not lost sight of, and ample opportunity is given for a study of subjects of that character. A considerable amount of art and design, English, history, and foreign language is required of students in the course. Opportunity is given, moreover, for increasing the amount of liberal, scientific or technical subjects by leaving the way open for a certain number of electives.

The courses of instruction given in the department are planned to meet the needs of two classes of students, viz: (a) those students who specialize in other lines of work, but desire a knowledge of the general principles and facts of household science; (b) those students who wish to make a specialty of household science.

Students are graduated with the degree of bachelor of science upon completing the following work:

I. The studies of the prescribed list.

2. Sufficient electives to make a total of 130 semester hours, of which not less than four and one-half shall be chosen from elective list A, not less than three from elective list B, not less than twenty from elective list C, and the remainder from any subjects offered in the University, which the student is prepared to take.

A thesis is not required for graduation, but any student who has completed not less than 90 hours of credit before the senior year may then elect a thesis course in any department (subject to the approval of the head thereof) in which he has done at least 20 hours' work.

For this purpose animal husbandry will admit credits in thremmatology to the extent of five hours. Thremmatology will admit all work in animals and plants relating to type or function, whether done in agricultural departments or in those of botany or zoology, but does not include credits in crop or animal production.

### PRESCRIBED SUBJECTS

Candidates for graduation must secure credits in the following subjects:

Agronomy 6 or 7, 9, 12, 15; 131/2 hours

Animal Husbandry 7; 21/2 hours

Botany 1, 12; 6 hours 1

Chemistry 1, 2, 3, 13a; 15 hours

Dairy Husbandry 1; 3 hours 2

Economics 2; 2 hours 3

English 1; 4 hours

Entomology 4; 21/2 hours

Horticulture 1, 10; 8 hours

Library Science 12; 2 hours

Military 1, 2; 5 hours

Physical Training 1, 3; 2 hours

Rhetoric 1; 6 hours

Thremmatology 1; 5 hours

Zoology 10; 5 hours

 $<sup>^1\</sup>mathrm{Botany}$  12 is not required of students who elect Botany 5 and no credit will be allowed to such students in this course.

<sup>2</sup>Not required of students specializing in Dairy Husbandry.

To be elected in the junior or senior year.

Elective List A; a minimum of 4½ hours Elective List B; a minimum of 3 hours Elective List C: a minimum of 25 hours.

In addition to the above, students who have not offered three units of the same foreign language for matriculation (commonly three years of high school work) will be required to offer one of the following at their option:

- 1. Two years of entrance and eight hours of university credit in foreign language. Except by special permission these credits should be in the same language; or
  - 2. Sixteen university credits in the same foreign language; or
- 3. Eight hours of university credit in English literature in addition to the standard requirement, together with eight hours of economics, or eight hours of history or eight hours of education.

#### ELECTIVE LISTS

List A.—Animal Husbandry 1 to 5, 11 to 14, 17 to 19, 22 Dairy Husbandry 2

List B.—English Literature 2, 16, 23

Rhetoric 16, 20, 12a, 3.

LIST C.—This list includes all subjects offered in technical agriculture and not included in the prescribed list, viz.:

Agronomy I to 8, 10, 13, 16 to 19
Animal Husbandry I to 5, 8 to 14, 16 to 22
Dairy Husbandry 2, 7, 8, 11 to 21
Horticulture 2 to 9, 11 to 15, 17 to 22, 24
Veterinary 2, 4, 5, 6.

#### GENERAL AND SPECIALIZED COURSES

The prescribed subjects amount to a total of 81½ credits and the character of the course whether general or specialized will depend upon the character of the electives chosen by the student to make up the total of 130 credits. A portion of this difference of 48½ credits is prescribed within certain limits in elective lists, A, B, C; but the remainder is left entirely open to the choice of the student who may thereby introduce a comparatively high degree of specialization into his course if he so desires.

# SUGGESTED OUTLINE FOR STUDENTS NOT SPECIAL-IZING IN ANY PARTICULAR SUBJECT

The following outline shows the most favorable time and order in which the prescribed work of the course can be taken by those who do not care to specialize in any particular subject. Students are strongly recommended to follow it in order to avoid conflicts.

conflicts.								
First Half					SECOND HALF			
Subject	No.	Total Credits	Section	Credit Hours	Hour	Section	Credit Hours	Hour
FIRST YEAR  I. Chemistry Rhetoric Library Sci Agronomy. Animal Hus Botany Military Physical Tr II. Chemistry. Rhetoric Botany Agronomy Military Physical Tr	1 12 5 11 12 2 & 3 2 & 3 • 1 1 6 1 & 2 1 & 3	5 3 2 1 2 1 2 1 1 1 5 3 5 1 2 2 2 1	B Arr. Ar. A Arr. Arr. B Arr.  Arr. Arr.	2112 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2	10, 11 8, 9 10, 11 1, 2 8, 9	B Arr. Arr. Arr. B Arr. Arr. Arr.	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10, 11 3, Tu. Th 10, 11 1, 2
SECOND YEAR I. Chemistry Entomology English Horticulture Military. II. Zoology Rhetoric or English from List B Horticulture Animal Hus	13a 4 1 1 2 10	5 2½ 4 5 I 5 2½	Arr. Arr. Arr.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	10, 11 8, 9  1, 2  1, 2	B Arr. B Arr. 	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	IO, II I, 2 I, 2
Military.  THIRD YEAR  I. Agronomy Economics Horticulture Animal Hus Dairy Husbandry.  II. Agronomy. Animal Hus Veterinary Sci Animal Hus Agr. Extension	9 2 10 8 & 21 1 12 2 4 & 5	5 2 3 2 2 3 5 5 5 5 5 2 1 2 1 2 1 2 1	A Arr A B B B	2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8, 9 3, M. W. 1  8, 9 10 11 2	Arr A B	12 21 112 212 212 212 212 212 212 212 2	8, 9 3, M. W.
FOURTH YEAR I. Animal Hus	7 7 1a & 1b 1 15 7 22	2 \frac{1}{2} \fra	 Arr.	2½ 22 2½ 2½ 2½ 2½ 1½	10  11  1, 2 3	 Arr.	21/2 22/2 21/2 21/2 21/2 21/2 21/2 21/2	II, 2 II II 

# SUGGESTED OUTLINE FOR STUDENTS SPECIALIZING IN ANIMAL HUSBANDRY

FIRST HALF						SECOND HALF		
Subject	No.	Total Credits	Section	Credit Hours	Hour	Section	Credit Hours	Hour
FIRST YEAR I. Chemistry	1 1 1 1 2 1 2 8 & 21 1 1 1 2 1 2 3 2 & 3 1 1 6 1 & 2 1 & 3 1	5 3 1 2 1 1 2 2 1 1 5 3 5 1 2 2 1	B Arr. Arr. Arr. Arr. B Arr. Arr. Arr. A	2217 1 2 2 1 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 2 1 2	IO, II I IO, II IO, II I, 2 8, 9	B Arr. Arr. Arr. Arr. Arr. Arr.	2 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	10, 11 3, Tu. Th 1 10, 11 10, 11
SECOND YEAR I. Chemistry Entomology Dairy Hus Horticulture Animal Hus Military II. Zoology Animal Hus Horticulture Agricultural Ex Military	13a 4 1 1 16 2 10 2 10 3 3 2	5 12 3 5 12 1 5 5 12 3 1 1	B Arr.	2 2 2 1 2 2 2 1 2 2 2 1 3	10, 11 8, 9  1, 2 3, M. W.F  10 8,M.W.F.	A B Arr.	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8, 9  10, 11 1, 2  1, 2 10 8, M.W.F. 3, M. W.
THIRD YEAR I. Agronomy. Economics. Horticulture. English. Animal Hus. II. Agronomy. Rhetoric. Animal Hus. Animal Hus. Veterinary Sci	10 1 18 & 19 12 20 4 & 5 17	5 2 3 4 2 2 5 3 2 2 2 2 2 5	Arr. Arr. Arr.	2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8, 9 3, M. W. 11 8, 9 10, M.W.F	Arr. Arr.	$\begin{array}{c} 2\frac{1}{2} \\ 1 \\ 1\frac{1}{2} \\ 2 \\ \vdots \\ 2\frac{1}{2} \\ 1\frac{1}{2} \\ \vdots \\ 2\frac{1}{2} \\ \end{array}$	8, 9 3, M.W.  8, 9 10,M.W.F.
FOURTH YEAR I. Animal Hus Animal Hus Dairy Hus Dairy Hus AND ELECTIVES II. Thremmatology. Agronomy Animal Hus	1a & 1b 2 16 1 15 13 12 14	25 1 2 1 2 1 2 2 2 2 2 3	Arr.	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	10 11  11  8 9	Arri	2½ 2½ 2½ 2½ 1½ 2½ 1½	8, 9 II  9

# SUGGESTED OUTLINE FOR STUDENTS SPECIALIZING IN DAIRY HUSBANDRY

First Half					SECOND HALF			
Subject	No.	Total Credits	Section	Credit Hours	Hour	Section	Credit	Hour
FIRST YEAR  I. Chemistry	2	5 3 3 3 2 1 1 5 3 3 1 2 2 1 2 1 2	B Arr. Arr. Arr. Arr. B Arr.	21/21/2 1 3	IO, II I, 2 IO, II I, 2 8, Tu.Th.	B Arr. Arr. Arr. Arr. B Arr. 	2 1 1 2 1 2 2 1 2 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1	10, 11 1, 2 10, 11 17, 2 8, Tu.Th.
SECOND YEAR  I. Chemistry Dairy Husbandry. Dairy Husbandry. English Military.  II Botany. Dairy Husbandry. Agronomy. Dairy Husbandry. Logish or Rhetoric from List B Military.	13a 2 16 1 2 1 17 6 20 7	5 2 2 2 4 1 5 2 2 2 2 2 3 I	B Arr. Arr. Ar. Arr.	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	10, 11 8, 9  1, 2  8, 9 10	B Arr. Arr. Arr.	2½ 2½ 2 1 2½ 2½ 2½ 3	10, 11  8, 9  1, 2 3  10, 11
IHIRD YEAR  I. Agronomy Dairy Husbandry. Horticulture. Horticulture. II. Zoology Agronomy. Animal Hus	9 11 10 1 10 12 2	5 1 2 2 3 5 5 5 5 5 5	Arr. B	221/21/21/21/21/2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8, 9 10, 11  1, 2 1, 2 8, 9	Arr.	2 1 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2	8, 9  1, 2 1, 2 8, 9
FOURTH YEAR I. Entomology Animal Hus Economics Dairy Husbandry. AND ELECTIVES II. Dairy Husbandry *Botany Thremmatology Agronomy	4 7 2 12 21 5 1	2½ 2½ 2½ Arr. 5	Arr.	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	8, 9 10 3, M.W.  8 1, 2 11	  Arr.	1 2 1/2 2 1/2 2 1/2 2 1/2 1/2 1/2 1/2 1/2	3, M.W. 8 1, 2

<sup>\*</sup>Botany 12 not required when Botany 5 is taken.

# SUGGESTED OUTLINE FOR STUDENTS SPECIALIZING IN HORTICULTURE

FIRST HALF					SECOND HALF			
Subject	No.	Total Credits	Section	Credit	Hour	Section	Credit Hours	Hour
FIRST YEAR I. Horticulture	ı	5	A	21/2	8,Daily &	A	21/2	8,Daily &
Animal Hus Chemistry	21 I	1½ 5		21/2	9, Tu.Th.		1 ½ 2 ½	9, Tu. Th 9M.W.F.
*Botany Rhetoric	11	5 3	XY orZ	2½	1, 2 3,M.W.F.	XY orZ	2 1 1 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2	1, 2 3,M.W.F.
Military Science Physical Tr	1 & 3	I	Arr. Arr.	2121212		Arr. Arr.	1 1 2	
II. Chemistry Horticulture	2 & 3	5	A	2 2 2	8,9	A	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	8, 9
Rhetoric	1 1 2 2	5 3 2	XY orZ Arr.	2½ 1½ 1	3,M.W.F.	XY orZ Arr.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3,M.W.F.
Military Science Physical Tr SECOND YEAR	1 & 3	I	Arr.	1 2		Arr.	1/2	
I. Entomology Horticulture	4 5	2½ 2½		2 ½	8, 9		21/2	8,Daily &
Chemistry Botany	13a	5 5	В	$\frac{2\frac{1}{2}}{2\frac{1}{2}}$	10, 11 1, 2	В	$2\frac{1}{2}$ $2\frac{1}{2}$	10, 11
English	I 2	4 I	J or K Arr.	2 1	3	J. or K. Arr.	2 1 2	3
II. Horticulture English Agronomy	2 & 3 2 1	5 4 2 <sup>1</sup> / <sub>2</sub>	C or D	2 1 2 2 2 2	8	C or D	$2\frac{1}{2}$ $2\frac{1}{2}$	8 9 10, 11
Horticulture Military	4 2	5	Arr.	2½ ½	1, 2	Arr.	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	1, 2
THIRD YEAR		21/2		21/2				
I. Zoology Agronomy Horticulture	10 9 15	5 5 5	A B	$2\frac{1}{2}$ $2\frac{1}{2}$ $2\frac{1}{2}$	8, 9 10, 11 1, Daily &	B B	2 1/2 2 1/2 2 1/2	8, 9 10, 11 1,Daily &
Horticulture	11	2		1	2,M.W.F. 2,Tu. Th.		I	2,M.W.F. 2,Tu. Th.
Library Science II. Agronomy	12	5	Arr.	1 2 <sup>1</sup> / <sub>2</sub>	8, 9 10,Daily&	Arr.	1 21/2	8, 9 10,Daily &
Horticulture	15	5		2 ½	11,M.W.F		2½	11,M.W.F
Agronomy Horticulture	9 6 7	$\frac{2\frac{1}{2}}{2\frac{1}{2}}$	В	21/2	I, 2		$\frac{1}{2\frac{1}{2}}$	I, 2
Horticulture FOURTH YEAR	20	2 <sup>1</sup> / <sub>2</sub>			8,9 M.W.F		2½ 1½	3, 4 8,0 M.W.F
I. Botany	7 7 12	3 2 1 2 1 2 1		1½ 2½	10		$2\frac{1}{2}$	10
Dairy Husbandry Horticulture	I	3	В.	3 1½	4, W.F.	В.	11/2	4, W.F.
ELECTIVE		$\frac{2^{\frac{1}{2}}}{2}$	· .;.		3, F. 3,M.W.		2 ½ I	3, F. 3,M.W.
BotanyII. Thremmatology	12 1	5		2 ½			1 2 1/2	3,Tu. Th.
Horticulture Horticulture Agronomy	18 22 15	5 5 1	Arr. Arr.	2 1 2 2 1 2	9	Arr. Arr.	2½ 2½ ½	9

<sup>\*</sup>Students offering entrance credit in botany may omit Botany 11.

# GENERAL COURSE IN HOUSEHOLD SCIENCE

## PRESCRIBED SUBJECTS

Required for the Degree of Bachelor of Science in General Course in Household Science

Architecture 29a and 29b; 4 hours

Art and Design 1, Architecure 41; 4 hours

Botany I, 5; 10 hours

Chemistry 1, 2 and 3; 10 hours

English 1, 2; 8 hours

History I or 3; 6 or 8 hours

Household Science 1, 2, 3, 6, 7; 12 hours

Library 12; 2 hours

Physiology 4; 5 hours

Physical Training 7, Physiology 6; 3 hours

Rhetoric 1; 6 hours

In addition to the above, students will elect as follows:

Zoology, 5 hours

English or Rhetoric, 5 hours

Foreign Languages, 16 hours

\*Elective List A, a minimum of 4 hours.

#### ELECTIVES

LIST A—English 19, 24 Horticulture 10, 19 Household Science 5, 10, 12 Economics 1, Sociology 1 Physics 2a and 2b.

#### COURSE OF INSTRUCTION

#### FIRST YEAR

- 1. Zoology 10; Chemistry 1; Household Science 2; Rhetoric 1; Physical training 7; Physiology 6.
- 2. Chemistry 2 and 3; Household Science 1; Rhetoric 1; Botany 1; Physical Training 7.

#### SECOND YEAR

- 1. English 1; Art and Design 1; Architecture 41; Foreign Language; Household Science 6; Library 12.
  - 2. Household Science 3; English 2; Foreign Language.

<sup>\*</sup>If physics has not been offered for entrance, its equivalent should be elected.

#### THIRD YEAR

- 1. History 1; Household Science 7; Architecture 29a and 29b; Botany 5.
  - 2. Physiology 4; History 3.

#### FOURTH YEAR

See elective list and requirements for graduation.

#### GENERAL COURSE IN LANDSCAPE GARDENING

The work is twofold: (1) Instruction of an elementary character for one semester to all who are working for a baccalaureate degree in Agriculture. (2) A four years' course looking to graduation in preparation for professional landscape gardening.

The object of the latter course is to provide instruction to those who wish to prepare for professional landscape gardening. The intention is to give thorough training in design as applied to landscape gardening and, at the same time, to provide means by which these art ideas can be executed. Also, such subjects are included as will tend to broaden one's horizon and give some little acquaintance with the liberal arts.

The artistic instruction of the course consists of almost continuous work in composition throughout the four years, two years being given to architectural design and the rest to landscape design. This is supplemented by another almost continuous course in free-hand drawing and the use of water-colors. Technique is provided by some acquaintance with the engineering methods, such as surveying, road construction, grading, and wall building; and by horticulture where a familiarity with plants and their propagation, culture, and care are emphasized together with such practice as will enable a student to make a reasonable planting plan. These are accompanied by their allied sciences and by such general subjects as a modern language, rhetoric, and history.

# PRESCRIBED SUBJECTS

Required for the Degree of Bachelor of Science in Landscape

Gardening

Agronomy 1; 2½ hours Architecture 6, 8, 14, 16, 17, 18, 22, 29b, 32; 27 hours Art and Design 1, 3, 4; 18 hours Botany 11; 5 hours Civil Engineering 1, 21; 7 hours
Drawing (General Engineering) 1; 4 hours
Entomology 4; 2½ hours
French 1; 8 hours
History 1; 6 hours
Horticulture 5, 7, 23, 24, 25, 26, 27, 28, 29; 26½ hours
Mathematics 4; 2 hours
Military 1, 2; 5 hours
Physical Training 1, 3; 2 hours
Rhetoric 1; 6 hours.

#### COURSE OF INSTRUCTION

#### FIRST YEAR

- 1. Art and Design 1; Botany; 11; Drawing (General Engineering) 1; Military 2; Physical Training 1, 3; Rhetoric 1.
- 2. Agronomy 1; Architecture 8; Art and Design 1; Mathematics 4; Military 1, 2; Physical Training 1, 3; Rhetoric 1.

#### SECOND YEAR

- 1. Architecture 14, 18; Art and Design 3; Civil Engineering 21; French 1; Military 2; Horticulture 23.
- 2. Architecture 17, 32; Art and Design 3; Civil Engineering 1; French 1; Military 2; Horticulture 23.

#### THIRD YEAR

- Architecture 6, 22; Art and Design 4; History 1; Horticulture 23, 24.
- 2. Architecture 6, 16; Art and Design 4; History 1; Horticulture 23, 24.

#### FOURTH YEAR

- Architecture 29b; Entomology 4; Horticulture 5, 25, 26, 27, 28, 29.
  - 2. Architecture 29b; Horticulture 7, 15, 19, 25, 26, 27, 28, 29.

# REQUIREMENTS FOR GRADUATION

Students are graduated with the degree of Bachelor of Science in Landscape Gardening upon completing the following work:

- I. The studies of the prescribed list.
- 2. Sufficient electives, which may be any University courses approved by the instructor in charge, to make a total of 130 hours.

#### SECONDARY SCHOOL AGRICULTURE.

The people of the rural communities have long been demanding that in the development of our educational policy recognition be given to agriculture as a subject and to farmers as a natural constituent of the body politic.

The high schools now pretty generally not only recognize the justice of this demand, but are beginning to see the pedagogic value of agriculture, in certain of its forms at least, and are ready to introduce this study into the curriculum as fully as local needs will justify and as soon as competent teachers can be found.

To aid in meeting the new conditions and to assist in determining what aspects of agriculture are suitable for secondary school purposes and how they should be taught, the college of agriculture is now offering two courses of study in the hands of a competent instructor who has had long experience as a teacher and who is intimately acquainted with the profession of agriculture and its people. (See Agricultural Extension in Part III for outline of courses.)

# THE GRADUATE SCHOOL

#### THE EXECUTIVE FACULTY

EDMUND JANES JAMES, Ph.D., LL.D., PRESIDENT OF THE UNIVERSITY

David Kinley, Ph.D., LL.D., Dean of the Graduate School and Professor of Economics

THOMAS JONATHAN BURRILL, Ph.D., LL.D., Vice-President, Professor of Botany

Stephen Alfred Forbes, Ph.D., LL.D., Director of the Illinois State Laboratory of Natural History and State Entomologist, Professor of Zoology

ALBERT PRUDEN CARMAN, A.M., Sc.D., Professor of Physics

WILLIAM FREEMAN MYRICK Goss, D. Eng., Dean of the College of Engineering, Director of the School of Railway Engineering and Administration

GUY STANTON FORD, Ph.D., Professor of Modern European History

CHESTER NOVES GREENOUGH, Ph.D., Professor of English

GEORGE ABRAM MILLER, Ph.D., Professor of Mathematics

WILLIAM ALBERT NOYES, Ph.D., Professor of Chemistry and Director of the Chemical Laboratory

JULIUS GOEBEL, Ph.D., Professor of Germanic Languages RAYMOND WEEKS, Ph.D., Professor of Romance Languages

LOUIE HENRIE SMITH, Ph.D., Assistant Professor of Plant Breeding, Assistant Chief of Plant Breeding in the Agricultural Experiment Station

#### HISTORY AND ORGANIZATION

Although the University of Illinois has for many years offered advanced students facilities for study and research in various lines, graduate work was undertaken under the name of the Graduate School for the first time in 1892. Beginning with that year each department offered such work as it could, without the organization of a separate Graduate School Faculty. In 1894 the administration of the school was vested in the Council of Administration and the

Vice-President of the University became Dean of the School. As yet, however, the School had no executive faculty separate from the faculty of the undergraduate colleges.

In 1906 the Graduate School was organized as a separate faculty. No means of support, however, were provided, separate from those provided for undergraduate work. In the winter of 1906-7, the Forty-fifth General Assembly of the State passed an act appropriating \$50,000 a year for the support of a Graduate School of the Arts and Sciences in the State University. This is the first time in history in which a State Legislature has made a specified appropriation for such a purpose and the act is noteworthy as committing a democratic government definitely to the promotion of advanced scholarship and research in lines which are not primarily "practical". The executive faculty was accordingly organized, and steps were taken to put such of the departments as were already prepared to do advanced work in suitable condition.

By act of the Trustees the faculty of the Graduate School includes all members of the University faculty who give instruction in courses approved for graduate credit. The affairs of the School, however, are in charge of the executive faculty, consisting of the Dean and other members assigned to this duty by the President.

#### ADMISSION

Admission to the Graduate School is conditioned upon the presentation of credentials showing that the applicant holds a first degree either from the University of Illinois or from some other college or university of approved standing. Admission to particular graduate courses or departments may be secured only by those who have had the requisite undergraduate work in those courses or departments. If any student wishes to take graduate work in a department in which he has had the necessary preliminary undergraduate training, he must secure this preparation in the undergraduate courses without credit and without reference to an advanced degree.

#### REGISTRATION

In order to be enrolled as a member of the Graduate School a student must be doing actual graduate work. The possession of a first degree does not entitle a student to be enrolled in the Graduate School, the courses which he is taking are in reality undergraduate courses.

Students of mature age, not holding a first degree, who satisfy

the Dean of the school and the officers of the departments in which they wish to work of their earnestness of purpose and special fitness, may be permitted to take work in the Graduate School without reference to candidacy for a degree. In order to secure this permission, however, a candidate must have had such preliminary preparation for the work he wishes to take up as would justify his admission to the Graduate School as a candidate for a degree if he could meet the formal requirements fully.

Application blanks for admission may be secured from the Dean of the Graduate School or from the registrar of the University, and these, properly filled out, should be filed, with such documentary matter as the candidate can offer showing qualifications for membership, not later than the registration days in September.

Each graduate student must register when he first connects himself with the University, and afterwards at the beginning of each year. The first registration, however, or that upon entrance, is permitted only after the student's application for admission to the Graduate School, setting forth his educational attainments has been duly approved.

Excepting as noted below, continuous residence and study are required of all members of the Graduate School, unless they are granted leave of absence by the Dean upon application, and upon approval of the professors in charge of their work, for the purpose of carrying on elsewhere studies or investigations in the line of work for their degrees.

Graduates of the University of Illinois, but no others, may be permitted to carry on graduate work for a second, or master's degree in absentia. All such students must make out the usual application for admission, must submit their proposed courses of study to the Dean, whose approval, together with that of the professor in charge of the work, is necessary, before the student can be enrolled. Students who wish to pursue their graduate work in absentia are required to submit evidence that they have at their place of residence sufficient equipment in the way of libraries or apparatus to pursue the course of study proposed.

#### THE MASTERS' DEGREES

Candidates for the degree of Master of Arts or Master of Science are required to do one full year's work in residence.

The mention of one year as the required residence period does not imply, however, that a degree will be obtained in one year. If the candidate is inadequately prepared, or if his time and strength are impaired during the first year of residence by other matters, he will be required to spend a longer time.

While the work of a candidate for a master's degree consists largely in the broadening of his knowledge of his subjects of study, and not, to so great an extent, at any rate, as in the case of the candidate for the doctorate, in the development of the power of original research; nevertheless, the work of the candidate must be of a high order and must be such as to satisfy the faculty that the candidate has done more than merely acquire a certain amount of knowledge by rote.

Each candidate for a master's degree may do all his work in one subject, or he may select a major and one minor, or a major and two minors. By "subject" is meant the field of knowledge of a department, or such part thereof as constitutes a separate and independent field of study. However, the candidate must do at least half his work on his major subject. Each candidate for the master's degree is also required to present an essay on some subject approved by the professor in charge of his major work, and the Dean of the School. The requirement of an essay may be waived, however, upon the recommendation of the head of the department in which the student is doing his major work, and the approval of the Dean.

Graduates of this University are permitted to secure their degrees on doing one year's work in absentia, but they may not secure the degree in less than three years from the time of registration. Work in absentia is not permitted unless the student satisfies the Dean and the professors in charge of his work that he has the facilities to do it properly.

Candidates who are working for a master's degree in absentia, without a thesis, must present themselves at the University for examination not later than the first Monday of June of the year in which they wish their degree.

The completed theses of non-resident candidates for degrees must be filed by April first.

# THE MASTERS' DEGREES IN ENGINEERING

Two classes of second degrees are open to graduates of the College of Engineering, namely, academic and professional.

The academic second degree in engineering is Master of Science, following Bachelor of Science, in Architecture, Architectural Engineering, Civil Engineering, Electrical Engineering, etc. This de-

gree is conferred in accordance with the regulations described above for work in residence only.

The professional second degrees in engineering are as follows: Master of Architecture after B. S. in Architecture.

Architectural Engineer after B. S. in Architectural Engineering.

Civil Engineer after B. S. in Civil Engineering.

Electrical Engineer after B. S. in Electrical Engineering.

Mechanical Engineer after B. S. in Mechanical Engineering.

Civil Engineer after B. S. in Municipal and Sanitary Engineering. Civil Engineer, Electrical Engineer or Mechanical Engineer, after

B. S. in Railway Engineering, according to the course.

Professional degrees are conferred upon graduates of the College of Engineering of the University of Illinois who have been engaged in acceptable professional work for a period of not less than three years after receiving the degree of Bachelor of Science. In "acceptable professional work" may be included contributions to technical literature, activity in professional societies, investigations of engineering problems, and the teaching of engineering subjects.

A candidate must declare his candidacy and file with the Dean of the Graduate School a detailed statement covering his professional study and experience not later than the first Monday in November preceding the Commencement at which he proposes to qualify. Prior to December 31 next succeeding, he must submit for approval an outline of his proposed thesis, and he must file his completed thesis not later than April 1. If the statement of professional experience and study and the thesis are acceptable, the candidate must present himself at the Commencement exercises, and the degree will be conferred.

Professional engineering degrees are conferred upon graduates of the University of Illinois, or of institutions of equal standing, who are engaged in professional work in residence at the University, under the general conditions set forth in the preceding paragraphs.

Candidates for professional engineering degrees, who already hold the degree of Master of Science, may qualify for the professional degree after two years of professional work, other conditions being the same as those prescribed for candidates holding the degree of Bachelor of Science.

## THE DEGREE OF DOCTOR OF PHILOSOPHY

The requirements for the degree of Doctor of Philosophy are a thorough mastery of a selected field of study, evidence of the power of independent investigation in this field, a broad knowledge of the wider field of study of which this major subject is a part, a general acquaintance with related fields of knowledge and a mastery of all branches of study which are necessary to a full knowledge of the main subject. Each student who is seeking this degree is expected to choose for study and final examination a major subject, or field of study, and a first and second minor. The major subject is the field in which the student expects to become expert and an authority. The first minor must be a subject closely related to the major and may, under certain conditions and with proper approval, be a sub-division of the major field of study. The second minor should be chosen outside of the major field of study.

When a candidate chooses any subject as his major and a division of that subject as his first minor, he is not permitted to choose as a second minor any division of work in that same department, excepting by special vote of the executive faculty of the School.

The candidate's list of subjects must receive the approval of the head of the department in which he chooses his major work and of the Dean of the School.

The minimum period of study required for securing the degree of Doctor of Philosophy is three years, and if a candidate of ability enters the Graduate School fully qualified to take up immediately the work leading to a doctorate and devotes all his time to the pursuit of his purpose, he will usually succeed in getting his degree at the end of three years. If, however, he begins his work without full preparation, or if his strength is divided, he will be required to spend a longer time. In any case, the degree is conferred, not for residence during a certain period, but for scholarly attainments and power of investigation, as proved by thesis and examination.

#### EXAMINATIONS

Towards the end of his second year of study the candidate for the degree must submit to a preliminary examination conducted by the members of the faculty with whom he is doing his principal work, in order to determine whether he will be accepted as a candidate for the degree in the following year. This examination is partly oral, and may be wholly so. At this time, or before, the candidate will be required to demonstrate his ability to read French and German, and any other language needed for the prosecution of his work. Excepting where the chosen field of study itself includes the languages, the examinations are conducted so as to determine

whether the student is able to use the language as a tool for the purpose of investigation.

On or before the second Monday in May of the year in which the candidate expects to come up for his degree, he must submit to a final examination by a committee appointed by the Dean of the Graduate School. This examination will be partly written. The candidate will also have, however, an oral examination. These examinations will not be confined to the courses which the candidate has attended in the University of Illinois only, if he has done part of the work elsewhere; nor even to the field covered by the courses specifically taken in this or other universities; but will be so conducted as to determine whether the candidate has a satisfactory grasp of his major subject as a whole, and a general acquaintance with the broad fields of knowledge represented by his major and minor subjects.

#### THESIS

The power of independent research must be shown by the production of a thesis on some topic connected with the major subject of study. The thesis must be the result of the author's own investigation. No display of scholarship or acquaintance with the literature of the subject will secure the acceptance of the thesis if it does not show real power of research. The candidate is expected to defend his thesis or dissertation before the members of the faculty, or as many of them as may wish to question him about it, at a meeting called for the purpose, in the spring of the year in which he expects to take his degree. A typewritten copy of the completed thesis must be in the hands of the Dean not later than noon of May fifteenth.

The thesis must be printed and one hundred copies deposited in the library of the University before the degree is conferred.

If, for any reason, the thesis can not be printed and one hundred copies deposited before Commencement time, the candidate must, before the first Monday in June, deposit a bond acceptable to the Comptroller of the University and the Dean of the Graduate School for the cost of printing his thesis, or such part thereof as may be regarded as sufficient to meet the requirements of the rules.

The title page of each thesis must bear the words "Submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in—(here put the major subject), in the Graduate School of the University of Illinois." The title page must also contain the full name of the author, the full title of the thesis, the year of imprint, and, if a reprint, the title, volume and statement

of the pagination of the volume from which it is reprinted. Each thesis must have an appendix giving a short educational history of the candidate, including the institutions he has attended, his degrees and honors, the titles of his publications, and such other matters as may be pertinent.

Before the candidate is admitted to the final examination and the defense of his thesis, he may be required to take any other examination, oral or written, that is thought proper by the various departments in which he has studied. If, after having been admitted as a candidate for the degree, he fails in the third year of his study to meet the expectations of the professors in charge of his work, or in any way fails to maintain the standard of scholarship and power of research expected of him, he may be refused admission to the final examination.

The final examination in the major and minor subjects may not be divided. The examination must be taken all at one time even though it requires several sessions.

Candidates should note that credit is not given for work done in other universities, excepting in the sense that their residence at other institutions is counted towards the residence requirement for the doctor's degree. The candidate is examined here on the subjects offered by him for the advanced degree.

At least the first two or the last one of the three years required must be spent at this University.

## FELLOWSHIPS AND SCHOLARSHIPS

A number of fellowships and scholarships have been established by the Trustees of the University.

The purpose of these scholarships and fellowships is to promote advanced scholarship and original research in the University.

To first year graduate students of ability and promise there is open a number of scholarships with a stipend of \$250 each and freedom from tuition, incidental and laboratory fees. To second and third year graduate students, that is, those who have had one or two years of graduate study, are open fellowships with a stipend varying from \$300 to \$500, with freedom from fees. The larger stipends are given only to students who are expected to take their degrees within the year. Each holder of a fellowship must pay the matriculation fee of ten dollars, unless he holds a first degree from the University of Illinois, and also the diploma fee of five dollars on receiving his diploma.

Candidates for these scholarships and fellowships must be graduates of the University of Illinois, or of colleges or universities having equivalent requirements for bachelors' degrees.

Applications must be made upon blanks provided for the purpose, to be obtained from the Dean of the Graduate School. These application forms should be addressed to the Dean of the Graduate School as early as possible in February of the academic year preceding that for which the fellowship is desired. Applications for scholarships and fellowships should be accompanied with full information concerning the applicant, and with any written or printed essays or results of investigation which he can submit.

Scholarships and fellowships are good for one year but may be renewed for a second or a third year in special cases. An appointment as honorary fellow, without stipend, may be made as specified for paid fellowships in the case of anyone who has held a regular fellowship and has shown distinguished merit in his work.

Applications for fellowships are required to agree to send the Dean of the Graduate School promptly notice of their acceptance or refusal; and to agree further, that, if accepted, the fellowship will not be resigned to take a fellowship in any other institution during the year for which it is awarded.

Nominations to fellowships are made upon the grounds of worthiness of character, scholastic attainments and promise of success in the principal line of study or research to which the candidate proposes to devote himself. Fellows are members of the Graduate School and have all the privileges and bear all the responsibilities of such membership.

RESEARCH FELLOWSHIPS IN THE ENGINEERING EXPERIMENT STATION

Ten research fellowships, each of five hundred dollars a year, have been established in the Engineering Experiment Station. Applicants to whom these fellowships are awarded are expected to hold them for two years, devoting a part of their time to work in the Engineering Experiment Station of the University. Application for these should be made to the Director of the Engineering Experiment Station.

Holders of these fellowships are subject to the same University regulations as holders of other fellowships.

# STATE LIBRARY SCHOOL

#### **FACULTY**

EDMUND J. JAMES, Ph.D., LL.D., PRESIDENT

——, Director

ALBERT SHERWOOD WILSON, A.B., B.D., Assistant Director. Professor of Library Economy

Anna May Price, A.M., B.L.S., Assistant Professor of Library Economy

Frances Simpson, M.L., B.L.S., Assistant Professor of Library Economy

FLORENCE RISING CURTIS, Instructor in Library Economy
ELIZABETH FORREST, B.L.S., Instructor in General Reference
FRANCIS KEESE WYNKOOP DRURY, A.M., B.L.S., Lecturer on Order

Department

PHILIP SANFORD GOULDING, A.B., Lecturer on Catalog Department

## **ADMISSION**

Applicants for admission to the Library School must have matriculated in the University and must have secured here or at some other college or university, 98 hours¹ of credit in University work, including the subjects prescribed for graduation from the College of Literature and Arts or the College of Science. Students are urged to complete a four years' college course before applying for admission.

## AIMS AND SCOPE

It is the purpose of the Library School to offer instruction (1) to students who wish to specialize in library work as a profession, and (2) to students who wish to elect liberal library courses as part of a general education.

Electives are introduced to allow for personal preference and fitness for various positions. The practical work of the course amounts to over three months of time counting eight hours a day, and this is more valuable, because more varied, than if taken in

<sup>1</sup>See Part III for definition.

three consecutive months in a library. Moreover, the library school student has the benefit of comparative study, while the apprentice becomes skillful in the ways of one library only.

Although elaborate methods are taught to enable students to work in large libraries where bibliographic exactness is required, stress is laid throughout the course on simplicity and economy of administration. Moreover, emphasis is constantly laid on the responsibility of the librarian to the schools and clubs and to the community at large.

The general student may elect, in his senior year, any subject in the list of library electives for which he is prepared. Such subjects have been indicated as will help the student in general reading, in research work, in club work, or as a member of a library committee or board of trustees. For the general student who does not care to elect any regular library course, the School offers a course of fifteen lessons on the use of the library and the ordinary reference books. This course is open to students in all classes.

# REQUIREMENTS FOR GRADUATION

Credit for two years' technical library work is required for graduation.

# Course of Instruction

# Required for the degree of B.L.S.

#### FOURTH YEAR

- I. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2); Selection of Books (Lib. 3); History of Libraries (Lib. 7); Library Extension (Lib. 14); Elementary Laboratory Course (Lib. 4).
- 2. Elementary Library Economy (Lib. 1); Elementary Reference (Lib. 2); Selection of Books (Lib. 3); Library Extension (Lib. 14); Elementary Laboratory Course (Lib. 4).

#### FIFTH YEAR

- I. Advanced Library Economy (Lib. 5); Bibliography (Lib. 6); Advanced Reference (Lib. 8)<sup>1</sup>; Public Documents (Lib. 13); Advanced Laboratory Course (Lib. 10); Seminary (Lib. 15).
- 2. Advanced Library Economy (Lib. 5); Bibliography (Lib. 6); Advanced Reference (Lib. 8)<sup>1</sup>; Bookmaking (Lib. 9)<sup>1</sup>; Public Documents (Lib. 13)<sup>1</sup>; Advanced Laboratory Course (Lib. 10); Seminary (Lib. 15).

<sup>&</sup>lt;sup>1</sup>Elective for library students.

#### METHODS OF INSTRUCTION

There are so few text-books on library economy that instruction is given almost altogether by lecture and laboratory methods. References to books and periodicals are given for collateral reading, and individual research is encouraged. Lectures are illustrated by the collections of forms and fittings, and each student is expected to do a certain amount of practical work in the University library each day. Before completing the course, each student must have had actual experience in every department of the library. Class room work is tested by problems, and examinations take the form of problems wherever practicable.

#### LOCAL LIBRARY CO-OPERATION

The library of the University of Illinois and the Champaign Public Library have systematic plans for co-operation through the Library School, in the interest of the clubs. Each woman's club in Champaign and Urbana sends its program for the year to the Library School, where a reference list is made on each subject, specifying in which library the material is to be found. A copy of each list is posted in each library.

# **EQUIPMENT**

The most valuable equipment is the working library of the University.

The Library School has the complete collection of manuscript notes and problems which have been prepared since the School opened in 1893, and a collection of library reports and catalogs, models, samples, and photographs showing methods of administration in all departments of various types of libraries.

# SCHOOL OF MUSIC

#### **FACULTY**

EDMUND J. JAMES, Ph.D., LL.D., PRESIDENT

CHARLES HENRY MILLS, Mus. B., F.R.C.O., Professor of Music. Director

GEORGE FOSS SCHWARTZ, A.B., M.B. Associate in Musical Theory May Emory Breneman, Instructor, Vocal Music

CONSTANCE BARLOW-SMITH, Instructor in Sight Singing, Ear Training, and in charge of Public School Methods

HENRI JACOBUS VAN DEN BERG, Instructor in Piano

WINIFRED FORBES, Instructor in Violin and Theory

ALBERT AUSTIN HARDING, Instructor in Band Instruments

BERTHA ISADINE Howe, Instructor in Piano and in charge of the Preparatory Department

GEORGE RAWSON WADE, Instructor in Voice and in charge of the Vocal Department

Lois McCobb, Instructor in Voice

SARAH DELANO MORTON, Instructor in Piano

MAY ELIZABETH FLOYD, Instructor in Piano

## ADMISSION

For admission to the School of Music, the candidate must fulfill the general conditions described on pages 22 ff. He may then enter on presentation of a certificate from a fully accredited high school, for all required credits except music, or by examination, or by transfer from some other college or university.

As in all other cases, 15 units of high school work are required for admission. Of these the following are prescribed and no substitutes are allowed:

<sup>&</sup>lt;sup>1</sup>A special circular giving complete details of the work of the School of Music may be obtained on application to the Registar.

Geometry, Plane	unit
History	unit
Foreign Language 3	units1
Music	units

The remainder of the required 15 units must then be made up from the elective subjects listed in the table on page 23 in the amounts here indicated. The subjects accepted for admission are described on pages 24 ff.

The two units required in music must be obtained in all cases by examination at the University. Certificates for this work are not accepted. For admission as special students, admission to advanced standing, etc., see page 38.

#### AIMS AND SCOPE

The School of Music offers regular courses leading to the degree of bachelor of music, and a teacher's certificate in the department of Public School Methods, and furnishes opportunity to students not candidates for a degree to spend an indefinite amount of time in the study of an instrument or of the voice.

A series of lectures and recitals is given each year. Only artists of the best reputation appear. Music students are admitted free, and are required to attend these concerts.

The instructors in the School of Music give recitals and lectures on musical subjects during the year.

The course in the history of music, as well as the work in the University Orchestra and the University Choral Society, may be taken by students in other departments.

# REQUIREMENTS FOR GRADUATION

Credit for 130 semester hours,<sup>2</sup> including military and physical training credit, together with an acceptable thesis, is required for graduation. The thesis must be on a topic related to music.

Students who are not working for the degree in music may receive a statement from instructors upon completing not less than one year of college work.

Students completing the course in Public School Methods are granted Teachers' Certificates.

<sup>&</sup>lt;sup>1</sup>At least two of these must be in the same language.

<sup>&</sup>lt;sup>2</sup>For definition of hour see Part III.

Special and preparatory music students are required, in addition to their practical work in music, to take a certain amount of other studies.

Students enrolled in the department of music only, pay no semester fees, but must pay the music fees. For a full statement of fees, see page 54.

The course in Public School Methods is a professional one in which students are trained to teach music in the public schools. The required subjects are Musical History, Theory, Ear-Training, Sight-Singing, Voice, Piano, Choral Society, Conducting and Methods of Teaching. An opportunity for practice teaching is offered.

Classes in ear-training meet twice each week. The fundamental principles of musical notation are studied thoroughly, and the ear is trained to recognize intervals, chords, etc., so that the student may eventually think music. Music students are required to attend these classes.

The sight-singing classes meet twice each week. This work is required of music students and is open to any university students who desire to take it.

# CLASSIFICATION OF SUBJECTS

PRESCRIBED	
Music 14	hours
Music 24	hours
Music 36	hours
Music 46	hours
Music 55	hours
Music Piano Voice Violin 'Cello	
First year7121712	hours
Second year8131818a12	
Third year9141919a16	hours
Fourth year152018	
French or German16	hours
Mathematics 4	hours
Physics 2	hours
English I4	
English 16	
Rhetoric I6	
Rhetoric 34	
Military I, 23	

Physical Training—	
Men, I, 3;	2 hours
Women, 7, 0:	.3 hours

The remaining hours of credit may be obtained in electives offered in the College of Literature and Arts, choice of subjects being left to individual students.

#### MUSICAL ORGANIZATIONS

The University Glee Club is an organization for men. Membership is decided by competition and is limited to sixteen in number. The club meets twice a week for rehearsal.

The Ladies' Glee Club is an organization for the young women of the University, and is in charge of the head of the vocal department.

The Mandolin and Guitar Club is open to men. Membership is decided by competition, and the club is associated with the Glee Club in its concerts.

The Military Band is conducted by the Instructor in Band Instruments. Besides giving several concerts within the year, it furnishes music for important University occasions, regimental formations and ceremonies and on all other occasions required by the President. Membership is limited in number and is decided by competitive examination.

The University Choral and Orchestral Society is conducted by the Director of the School of Music, and gives each year a Christmas concert and a May Festival. The Orchestra meets for two hours' rehearsal once a week, and is open to all students who play any orchestral instruments ordinarily well. The Choral meets once a week for rehearsal of choral works. A small fee is charged for membership, and singers not connected with the University are admitted.

# THE SCHOOL OF EDUCATION

It is the purpose of the School of Education to bring together all the resources of the University which contribute in a professional way to the preparation of three classes of workers in our public school system:

- I. The High School Teacher.—The school provides for the needs of the high school principal, by supplying a general knowledge of the various subjects of the high school curriculum as well as a knowledge of organization and administration as applied to the secondary school; and for those of the departmental specialist requiring a more extended knowledge of a few subjects.
- 2. The Supervisor of Special Subjects.—Manual training, domestic science, music, drawing and physical training as now taught in the better class of school systems, are subjects which demand specially trained supervisors; and the exceptional facilities of the University for instruction in these subjects are thoroughly utilized.
- 3. The School Superintendent.—Demanding, as he does, a knowledge of the development of school systems, a keen insight into pedagogical problems, and an appreciation of child-nature, the superintendent needs extended preparation, and this the School of Education is prepared to give.

The faculty of the school includes all those instructors who offer courses primarily intended for prospective teachers.

All students who are preparing to teach, or who are primarily interested in the work of education, are urged to enroll at the beginning of their junior year in the School of Education.

They are further advised to elect, besides those special subjects in which they desire to become proficient as teachers, the following professional courses:

- Education I, five hours, (Principles of Education) and Education 6, three hours, (High School Organization and Administration).
  - Education 11, six hours, (Practice and Observation).
  - 2. Psychology I, three hours. (Elementary Psychology) and Psychology 5, two hours, (Child Study).
  - 3. An elementary course of at least three hours in philosophy.

The courses in psychology and philosophy should as far as possible be elected in the sophomore year of the student's course.

Students wishing to enroll in the School should confer with the Director, and should fill out the enrollment card of the School, after they have registered in the usual way with the Deans of their Colleges.

The course of study of the School of Education is made up of offerings selected from the work of the various depratments of instruction in the University. The course is elective except for the graduation requirements of the College in which the student is registered, and for the prerequisites to the granting of the Certificate of Qualification to Teach.

The work is arranged in four somewhat distinct groups:

(a) Courses in Education, Psychology, and Philosophy bearing directly upon the profession of the teacher.

(b) Courses especially intended for teachers, offered by various

departments of the University.

- (c) Suggested programs for students preparing to become special supervisors of Domestic Science, Drawing, Music, or Physical Training.
- (d) Suggested programs for continuous and progressive work in subjects represented in the high school curriculum.

#### SPECIAL LECTURES

A number of special lectures are offered each year by the School of Education. The State Superintendent of Public Instruction and the Presidents of the five State Normal Schools of Illinois are officially connected with the School in the capacity of Special Lecturers, each speaking before its students two or more times each year. Other educators of prominence are also invited from time to time to do similar service.

# PRACTICE TEACHING

The School of Education is able to offer exceptional opportunities for practical training in secondary teaching. The Academy of the University enrolls over four hundred pupils of secondary grade, and is available to all students in education for purposes of observation. The study of actual classroom practice is an integral part of the courses in high school administration and methods of teaching. Students who are properly qualified are admitted to the training courses which involve practice teaching in the Academy.

Such students are given complete responsibility for the conduct and progress of their classes, and do the actual work of the classroom under the close supervision of the faculty of the School of Education and the teachers of the Academy. A unit of work covering a period of from four to eighteen weeks is allotted to each practice-teacher. With the help of his advisers, he outlines the work for the entire period, provides for and prepares the necessary materials, and works out each daily lesson well in advance of the time for presentation. His class-work is carefully watched. and criticisms and suggestions are offered as they are needed. All students-in-training meet once each week with the principal and other teachers of the Academy to discuss the progress of the work. In fact, for the time being, the student is, to all intents and purposes, a member of the teaching corps of the school, with a definite responsibility for the progress of the pupils that are assigned to his care. Training courses are effective only in so far as they concentrate, within a comparatively brief period, the discipline that the untrained teacher gains during a much longer period of actual experience. This recognized value of practice-teaching can be realized only when the student-in-training feels the same responsibility for results that a teacher regularly employed would feel, and when supervision is so constant and so well systematized that mistakes can be corrected before they have had time to crystallize into habits.

In addition to the facilities afforded by the Academy, the public schools of Champaign and Urbana (both secondary and elementary) are available for purposes of observation. Abundant opportunity is thus provided for the concrete study and investigation of the problems involved in the general supervision and administration of schools.

## THE PEDAGOGICAL LIBRARY AND MUSEUM

In the rooms of the Department of Education in University Hall is a considerable collection of photographs of school buildings, drawings and constructive work by pupils in the public schools, and the nucleus of a representative collection of apparatus for the school laboratory.

In addition to this are more than 8,000 text-books, national, state, and city reports, courses of study and other educational documents of value. A card catalog of 9,000 titles carefully classified, covering recent educational magazine literature is also in the rooms of the Department.

The special announcement of the School of Education describ-

ing the work in greater detail may be had by addressing the Registrar of the University.

# COMMITTEE ON APPOINTMENT OF TEACHERS

This committee has in charge the naming of candidates from among University graduates for positions as teachers or supervisors of public schools, or instructors in normal schools, colleges, and technical schools. All requests coming to the University to recommend candidates for such positions go to this committee and should be addressed to the chairman, Professor H. A. HOLLISTER.

# SCHOOL OF RAILWAY ENGINEERING AND ADMINISTRATION

#### **FACULTY**

EDMUND JANES JAMES, Ph.D., LL.D., President

WILLIAM FREEMAN MYRICK Goss, M.S., D.Eng., Director DAVID KINLEY, Ph.D., Professor in Charge of Business Courses ERNEST RITSON DEWSNUP, M.A., Professor, Railway Administration EDWARD CHARLES SCHMIDT, M.E., Associate Professor, Railway Engineering

SHELBY SANFLEY ROBERTS, C.E., Assistant Professor, Railway Civil Engineering

John Christie Duncan, M.S., Ph.D., Assistant Professor, Accountancy

EDGAR ISAAC WENGER, B.Sc., Associate, Railway Electrical Engineering

ALBERT St. JOHN WILLIAMSON, M.E., Instructor, Railway Mechanical Engineering

## GENERAL STATEMENT

The School of Railway Engineering and Administration has been established to prepare men broadly for the technical and administrative departments of railroads. The work offered is arranged in five different courses, any one of which is designed to occupy four years' time. The courses are:

Railway Civil Engineering

Railway Mechanical Engineering

Railway Electrical Engineering

Railway Administration

Railway Accountancy.

The first three of these courses are administered by the College of Engineering, and a description of them appears with that of other courses offered by this College. Students are admitted to them under the same conditions as to other courses of the College of Engineer-

ing, and they have available for their use all of the library, drafting-room and laboratory facilities which constitute the equipment of this College. The last two courses are administered by the College of Literature and Arts; they are described in detail in connection with the other courses of this College. Students are admitted to them under the same conditions as to other courses of the College of Literature and Arts, and they enjoy all the privileges of students in said College.

It is the purpose of each of these courses to add to the broad foundation of discipline and training which should be supplied by every college course, such specialized training as will be most useful to those who look forward to careers in railway service.

# SUMMER SESSION\*

1908

EDMUND JANES JAMES, Ph.D., LL.D., President HERBERT JEWETT BARTON, A.M., Dean THOMAS ARKLE CLARK, B.L., Director

The faculty is made up chiefly from the regular instructional force of the University.

#### GENERAL STATEMENT

The Summer Session, a term of nine weeks, opened June 15 and closed August 14, 1908. This is equivalent to one-fourth of the regular University year, and credit is given on that basis.

#### FEES

A tuition fee of twelve dollars (\$12) is required of all students in regular attendance at the session. This entitles one to admission to regular courses and to all special lectures. An extra laboratory fee in some courses is charged for material used. Any single course may be taken for a fee of six dollars (\$6) and the laboratory fee, if there be any in connection with the course taken, a single course being understood to mean not more than two and one-half hours. A permit to attend special lectures may be obtained from the Dean of the Session without the payment of any fee.

# SCHOLARSHIPS

All high school teachers in Illinois, and all other teachers in the State who are able to matriculate in the University, are entitled to a free scholarship in the Summer Session of the University. Teachers desiring these scholarships should present to the Director before June 1, 1909, a statement from the board of education of the school in which they were employed to the effect that they

<sup>\*</sup>A circular of information concerning the Summer Session for 1909 will be sent on request addressed to the Registrar or to the Director of the Summer Session.

have been teaching during the past year. Blanks for this purpose may be had by addressing the Director. Teachers wishing scholarships on the ground of their ability to matriculate should present their credentials to the Registrar before June 1, 1909.

#### INCIDENTAL LECTURES

Besides the regular exercises two incidental lectures were given each week. The following lectures were presented:

Professor D. K. Dodge, Abraham Lincoln.

Professor J. C. Blair, Ornamental Planting.

Mr. D. O. McGovney, The Power of Courts to Declare Acts of Congress and of State Legislatures Unconstitutional.

Professor E. C. Baldwin, The Bible as Literature.

Dr. C. W. Balke, High Explosives.

Professor C. M. Moss, A Modern Chapter from Ancient History.

Mr. F. K. W. Drury, The Use of Books.

Professor C. F. Hottes, A Visit to the Cliff Dwellings of the Mesa Verde.

Professor G. T. Kemp, What Medicine Owes to the Advances in General Science.

Professor G. H. Meyer, A Visit to German Cities.

Professor E. C. Hayes, Relation of Sociology to the Art of Teaching.

Professor Joel Stebbins. Life in a Mountain Observatory.

Professor N. A. Wells, Art in the School Room.

Professor S. A. Forbes, The Numbers and Local Distribution of Illinois Birds.

# OUTLINE OF COURSES

# AGRICULTURE

## Mr. Barto

S I. Secondary School Agriculture.—A course arranged for the teachers in rural high schools, especially for the teachers of the science courses in these high schools, who wish to make preparation for teaching agriculture.

Daily; two periods; first six weeks. (11/2).

S 2. ELEMENTS OF AGRICULTURE.—This course is planned to meet the needs of teachers who wish to give instruction in agri-

culture in rural schools, and will cover as far as practicable the work in agriculture given in the State Course of Study for the Common Schools of Illinois.

Daily; two periods; first six weeks; (11/2).

#### ART AND DESIGN

S I. ELEMENTARY.—A course in form drawing from still life, cast, and nature, in pencil, charcoal, and crayon. Lectures on the principles of perspective.

Daily; two periods; (2). Mr. LAKE, Miss HILL.

S 2. WATER COLOR PAINTING.

Daily; two periods; (2). Miss HILL.

S 3. ART FOR THE COMMON SCHOOLS.—For supervisors of drawing and public school teachers.

Daily; two periods; first six weeks; (2). Mr. LAKE.

#### BOTANY

Courses S E I and S E 2 are elementary courses and are intended for those who are beginning the study of a laboratory subject. Both are required for entrance to Botany I or 2 (General University Courses).

S E 1. GENERAL MORPHOLOGY.

Daily; two periods; (2½) Assistant Professor Hottes.

S 3. ELEMENTARY Physiology.—A study of the more important physiological processes in the plant.

Daily; two periods; (2½). Assistant Professor Hottes. Prerequisite: Entrance credit in botany or its equivalent.

S 4. Technique and Elementary Histology.—Methods of collecting and preserving material for the class room, and the preparation of permanent slides and museum specimens. A study of the minute anatomy of the vegetative organs.

Daily; two periods; (2½). Assistant Professor Hottes. Prerequisite: Entrance credit in botany or its equivalent.

#### **CHEMISTRY**

Note—By special arrangement with the instructor, students, who do not wish to attend the recitations or do the laboratory work, may attend the lectures of S E 1 or S 2, but University credit will not be given in such cases.

S E I. ELEMENTARY CHEMISTRY.—A course in general inorganic chemistry. The text employed is Alexander Smith's General Inorganic Chemistry.

Daily; four periods; (5). Dr. BALKE, Mr. CLARK, Mr. DERICK.

S 2. Descriptive Inorganic Chemistry.—A continuation of S E 1. Alexander Smith's General Inorganic Chemistry is used as a guide.

Daily, including Saturday; (3). Dr. Balke, Mr. Clark, Mr.

DERICK.

Prerequisite: Chemistry 1.

S 3a. QUALITATIVE ANALYSIS.

Daily, including Saturday; four periods; (2½ to 5). Dr. BALKE, Mr. CLARK.

Prerequisite: Chemistry I.

S 5a. ELEMENTARY QUANTITATIVE ANALYSIS.—The text book is Lincoln and Walton's Exercises in Quantitative Analysis.

Daily; four periods; (5). Assistant Professor Lincoln. Prerequisite: Chemistry 1 and 3a.

S II. ELEMENTARY RESEARCH.—Opportunity will be given to carry on investigations in chemistry.

Arrange. (2-5). Assistant Professor Lincoln, Dr. Balke.

S 13a. AGRICULTURAL ANALYSIS.—This course is arranged to meet the wants of agricultural students. The text book is Lincoln and Walton's Elementary Exercises in Quantitative Analysis.

Daily; four periods; (5). Assistant Professor Lincoln.

S 17a. Course for Teachers.—Designed for those who expect to teach the subject in high schools.

Daily; two to four periods; (2-5). Dr. Balke, Mr. Clark.

S 31. ELEMENTARY PHYSICAL CHEMISTRY.—Jones's Elements of Physical Chemistry.

Arrange; (3). Assistant Professor Lincoln.

S 33a. Physical Chemistry.—A laboratory course supplementary to course S 31.

Arrange; (2).

Assistant Professor Lincoln.

# DRAWING, GENERAL ENGINEERING

# Mr. GIBBONS

1. ELEMENTS OF DRAFTING.—Required of all Engineering students. Consists of lettering, free-hand sketching, and working

drawings. Text: Wilson and McMaster's. Notes on Practical Mechanical Drawing.

Daily; three periods; (4).

2. Descriptive Geometry.—Text: Church's Descriptive Geometry, accompanied by a syllabus and problem book. Problems relating to the point, line, and plane; the properties of surfaces, intersections and developments.

Daily; three periods; (4).

Prerequisite: General Engineering Drawing 1.

#### **ECONOMICS**

S I. Principles of Economics.—A beginners' course giving a general survey of the field.

Daily; (2). Assistant Professor Weston.

S 3. Banking.—A study of the theory of banking and banking practice in the United States.

Daily; (2). Assistant Professor Weston.

S 10. Corporation Economics.—A study of the modern industrial organization, including the employers' association, the combination, the trust, and the corporation securities, and methods of distributing them. The promotion and financiering of consolidated corporations and the analysis of corporation reports, and other topics. This course requires a knowledge of the principles of economics.

Daily; (2). Professor Robinson.

S 22. ECONOMIC HISTORY OF THE UNITED STATES.

Daily; (2). Professor Robinson.

#### EDUCATION

S i. Principles of Education.—This course considers the following topics: The meaning of education and the educational ideal; the child as a developing organism; the school and the course of study; the home as a factor in education; moral and religious education.

Daily; (2½). Professor Colvin.

S 2. PRESENT DAY PROBLEMS IN EDUCATION.—Among the problems touched on are: The truth and error in the doctrine of formal discipline; general culture versus vocational training; individual

and social factors in education; the value and place of interest in the schoolroom. The course will consist of lectures, reports and discussions.

Three times a week (1).

Professor Colvin.

S 3. A BRIEF SURVEY OF GREEK EDUCATIONAL IDEALS AND PRACTICES.—The educational ideals of Plato, Aristotle and Stoics are discussed.

Twice a week; (1).

Professor Colvin.

S 4. School Organization and Administration.—A general course including a brief historic discussion of the principles and laws under which Illinois schools are developing; present legal status of schools; school finances; material equipment; problems in organization; the course of study and the daily program. Comparative studies, especially in relation to supervision, finance, qualification and certification of teachers.

Daily; first six weeks; (1 2-3). Assistant Professor Hollister.

S 5. Secondary School Management.—Legal status of the high school; the high school as related to the community life and as a school of preparation; problems of the curriculum; the business side of high school work; discipline; social problems of the high school; the selection of teachers, text books, apparatus, library books.

Daily; first six weeks; (1 2-3). Assistant Professor Hollister.

#### **ENGLISH**

#### ENGLISH LITERATURE

S 3. SHAKSPERE'S CONTEMPORARIES.—Plays of Marlowe, Kyd, Greene and Johnson.

Daily;  $(2\frac{1}{2})$ .

Dr. SHERMAN.

S 7. NINETEENTH CENTURY POETRY.—Special attention will be paid to Tennyson.

Daily; (1 2-3).

Miss Kyle.

S 8. High School English.—Some of the books in English Literature required for entrance to the University are studied with reference to their use in the school room.

Three periods a week; (11/2). Professor Dodge, Assistant Professor Baldwin, Dr. Sherman.

S 11. CONTEMPORARY WRITERS. Daily; (2½).

Professor Dodge.

S 14. ELEMENTARY SHAKSPERE.—Rapid reading of a number of plays.

Daily; (1½). Dr. Sherman.

S 15a. SELECT PERIODS OF ENGLISH LITERATURE.—This course and S 15b may be taken as an equivalent of English 1, as outlined on p. 224.

Either four or eight times a week; (2 or 4).

Assistant Professor BALDWIN.

S 15b. SELECT PERIODS OF ENGLISH LITERATURE.—This course and S 15a may be taken as an equivalent of English 1, as outlined on p. 224.

Either four or eight times a week; (2 or 4). Mr. VAN DOREN.

S 19. HISTORICAL ENGLISH GRAMMAR.

Daily; (2½). Professor Dodge.

S 20. LITERARY STUDY OF THE BIBLE.—The literature of prophesy.

Daily; first six weeks; (1 2-3). Assistant Professor BALDWIN.

Properly prepared students may take additional work in several of these courses, by registering in one of the research courses, 101.

### RHETORIC

- S I. RHETORIC AND THEMES.—The work of this course is similar to the English composition required of freshmen in the University.

  Daily; (3).

  Mr. VAN DOREN.
- S 3. Daily Themes.—Short themes, from one to two pages in length, every day, with exercises not to exceed four pages in length every fortnight. Bates's Talks on Writing English (First series).

Three meetings a week; (2). Professor CLARK.

By special arrangement (4) four hours' credit may be made in this course.

S 5. EXTEMPORE SPEAKING.

First six weeks; three periods a week; (1). Professor CLARK.

S 7. Public Speaking. Text books and declamations.

Four periods a week; (2). Miss Bradford.

S 8. THEME CORRECTING.—A course primarily for teachers of English composition. Lectures, discussions, and written exercises. The object of the course is to develop the most helpful and suggestive methods of correcting themes. The actual work of students in the high schools of the State is utilized in this course.

Three meetings a week; first six weeks; (1). Professor CLARK.

S 13. Theory and Practice of Debating.—Text book and debates.

Two periods a week; (1).

Miss Bradford.

S 20. SHAKSPEREAN READING.—Hamlet or Macbeth. Henry IV or Coriolanus. Merchant of Venice or Twelfth Night. Selected scenes memorized, and given from the platform.

Daily; (21/2).

Miss Bradford.

S 21. The Forms of Discourse.—A study of the principles of narration, description, exposition, and argumentation. This course will be accepted for the second semester of Rhetoric 1, as outlined on p. 228.

Daily (3).

Miss Kyle.

### ENTOMOLOGY.

S I. GENERAL FIELD AND LABORATORY COURSE.—A study of the field of entomology; its most important contents as material for high school instruction work and for economic work in the rural schools. A well equipped insectary will be available, and frequent field excursions will be made under the leadership of the instructor.

Daily; (21/2).

Dr. Folsom.

S 2. Advanced Course.—This course, consisting chiefly of field and insectary work on economic and ecological subjects, is open to those who have had course S I or its equivalent.

Daily; (21/2).

Dr. Folsom.

# FRENCH

S i. Beginners' Course.

Daily; (21/2).

Dr. Jones.

S 2. READING OF MODERN FRENCH.—For students who have had the equivalent of a year's elementary French.

Daily;  $(2\frac{1}{2})$ .

Dr. Jones.

- S 3. Supplementary Work.—Under the direction of the instructor, competent students may supplement the work of either of the preceding courses so as to make S I the equivalent of the first semester of the regular University course I, or courses S 2 the equivalent of the first semester of course 2 of the regular University year. Mr. Fortier.
  - S 4. ROUSSEAU.

Two hours a week; (1, or more by arrangement). Mr. Fortier.

S 5. Advanced Prose Composition and Conversation.—Designed chiefly for students intending to teach French.

Two hours a week; (1, or more by arrangement.) Mr. Fortier.

## **GEOGRAPHY**

### Mr. Knirk

A. Physiography of the Lands.—Designed especially for those who wish to prepare themselves as teachers of this subject.

Lectures M., W., F. at 1:00. Laboratory and field trips Tu. Th., afternoons and all day Sat. (3).

B. Meteorology, Oceanography, Climatology.—An advanced course for students who have had course A, or its equivalent.

 $M., W., F., 2:00 to 4:00. (1\frac{1}{2}).$ 

### GERMAN

S i. Beginners' Course.

Daily; (2½). Two sections. Dr. Wiehr, Miss Jaeck.

S 2. INTERMEDIATE COURSE.—Open to those who have had German I of the regular University year, or who have from any other source an equivalent preparation.

Five times a week; (21/2).

Dr. WIEHR.

S 3. Prose Reading.—Open to students who have had German 3 of the regular year, or who give evidence of satisfactory preparation for the course.

Five times a week; (2½). Assistant Professor Meyer.

S 4. SCHILLER.—Reading of one or more of Schiller's dramas and selected lyrics and ballads.

Five times a week; (2½, or more by arrangement). Assistant Professor Meyer.

S 5. ADVANCED PROSE COMPOSITION.—Designed chiefly for students intending to teach German.

Two hours a week; (1, or more by arrangement). Dr. Wiehr.

S 6. Supplementary Work.—Under the direction of the instructor, competent students may supplement the work of S 1, so as to make it the equivalent of course 1 of the regular University first semester or of S 2 the equivalent of regular course 3, or of S 3 the equivalent of regular course 4. Assistant Professor Meyer.

### HISTORY

S 5. Modern European History.—A general introductory survey from the Peace of Westphalia in 1648 to the present time.

Daily; first six weeks; (2).

Dr. PAETOW.

S 6. AMERICAN HISTORY, 1606-1789.—

Daily;  $(\frac{1}{2})$ .

Dr. LARSON.

S 7. Mediaeval England.—Open to students who have had at least one college course in history or its equivalent.

Daily  $(2\frac{1}{2})$ .

Dr. LARSON.

S 8. THE ERA OF THE RENAISSANCE.

Daily; first six weeks; (2).

Dr. PAETOW.

S 9. The West, 1763-1790.—Considerable stress will be laid upon the use of original material and special attention will be given to Illinois history.

Daily; first six weeks; (2).

Assistant Professor ALVORD.

# HOUSEHOLD SCIENCE

## MISS PINCOMB

S I. FOOD.

Daily;  $(1\frac{1}{2})$ .

- S 2. The House.—The plan, decoration and care of the house. Three meetings a week; (1).
- S 3. Organization and Equipment.—Domestic science and domestic art are considered from the standpoint of their relation to other subjects in the school curriculum.

Two meetings a week; (1).

Note.—In view of the desire expressed by the teachers who participated in the conference on domestic science in the public schools the work in the Summer Session is planned with special reference to the needs of such teachers. The problems of the rural school teacher will also be considered.

### LATIN

### PROFESSOR BARTON

S I. LATIN COMPOSITION.—Continuous prose with such preliminary drill in isolated sentences as may be necessary.

Two periods a week; (1).

S 2. SALLUST.—The Jugurthine War with some comparison of the style of Sallust with that of Livy and Tacitus.

Three periods a week; (11/2).

S 3. OVID.—Selections chiefly from the Faste Roman Religion. Three periods a week; (½).

S 4. Teachers' Course.—Reasons for the study of Latin in high schools, its present position in school programs, value as discipline, as literature, as an introduction to Roman life and institutions, the teacher's preparation, lists of books, photographs, lantern slides and stereopticon views. Illustrated lectures on subjects connected with Latin authors read in the high school.

Two periods a week; (1).

## LAW

- S 2. TORTS.—Ames' and Smith's Cases, Vol. 1, 4 hrs. a week; (2). Professor CLARK.
  - S 5. Criminal Law.—Knowlton's Cases. 5 hrs. a week; (3).

    Professor Hughes.
- S 6. PERSONAL PROPERTY.—Gray's Cases, Vol. 1, 4 hrs. a week; (2).

  Mr. McGovney.
  - S 8. EVIDENCE.—Thayer's Cases. 7 hrs. a week; (4).

    Professor Hughes.
  - S II. AGENCY.—Wambaugh's Cases. 6 hrs. a week; (3).

    Professor Green.
  - S 16. Trusts.—Ames' Cases, 6 hrs. a week; (3).

    Professor Clark.
- S 30. Public International Law.—Lawrence's Principles of International Law and selected cases. (2). Mr. McGovney.

## **MATHEMATICS**

### ELEMENTARY MATHEMATICS

S E 1. SOLID GEOMETRY.—Special emphasis will be placed upon original demonstrations and upon the cultivation of space tuition. Any standard text in geometry may be used.

Daily; (3).

Mr. Emmons.

## COLLEGE MATHEMATICS

S 2. ADVANCED ALGEBRA.—This course will be equivalent to that offered in the University on the same subject.

Daily; (3). Associate Professor WILCZYNSKI.

S 4. PLANE TRIGONOMETRY.—This course will be equivalent to that offered in the University on the same subject.

Daily: (2).

Mr. PONZER.

S 5. Teachers' Course.—In this course special attention is given to a discussion of the methods of teaching algebra and geometry, the position of mathemetics in the secondary school course, the correlation of mathematics with allied subjects, a comparative study of the leading text books, and a brief history of elementary mathematics.

*Daily*; (3).

Miss White.

S 6. ANALYTICAL GEOMETRY.

Daily;  $(2\frac{1}{2}$  to 5).

Miss White.

S 7. DIFFERENTIAL CALCULUS.—This course is equivalent to that offered in the University as Mathmetics 7.

Daily; (2½ to 5.).

Mr. Emmons.

S 9. INTEGRAL CALCULUS.—This course is equivalent to that offered in the University as Mathematics 9.

Daily; (3).

Mr. Ponzer.

S 33. DIFFERENTIAL GEOMETRY.—Applications of the calculus to the general theory of curves and surfaces. The course will be based on Scheffers' Anwendung der Differential und Integral Rechnung aux Geometrie.

Daily; (3).

Associate Professor WILCZYNSKI.

# MECHANICS, THEORETICAL AND APPLIED

S 7. ANALYTICAL MECHANICS.—This course includes the first half of Analytical Mechanics as given in Maurer's Technical Mechanics.

Daily; (3).

Prerequisite: Mathematics 7 and registration in Mathematics 9.

S 8. Analytical Mechanics.—This course includes the second half of Analytical Mechanics as given in Maurer's *Technical Mechanics*.

Daily;  $(2\frac{1}{2})$ .

Mr. Enger.

Prerequisite: Mathematics 9 and T. & A. M. 7.

S 9. Resistance of Materials.—This course covers the same ground both in text book, problem work and in experiments in the materials testing laboratory as T. and A. M. 9.

Daily in class room and two double periods in laboratory;  $(3\frac{1}{2})$ .

Mr. FLEMING.

Prerequisite: T. and A. M. 7 and registration in T. and A. M. 8.

### MECHANICAL ENGINEERING

S ia. PATTERN SHOP.—This course is the equivalent of that offered in the University on the same subject.

Daily; (3).

Mr. Ellis.

S 1b. Forge Shop.—This work will include a series of exercises in forging, welding, tempering, and annealing. (1½).

Mr. LANGHAM.

S 2. MACHINE SHOP PRACTICE.—In this course there is given a series of lectures on machine tools. The student is taught to operate the various kinds of tools, such as the drill press, lathe, planer, shaper, boring mill, milling machine, grinding machine, screw machine, and gear cutter. Visits of inspection to shops in the adjoining cities are made. (2½).

Mr. Scroggin.

# PHILOSOPHY

### PROFESSOR DANIELS

S I. METHOD OF THOUGHT.—A critical analysis of terms, propositions and syllogistic reasoning. The nature of proof and evidence. The principles of scientific method.

Daily; (21/2).

S 2. ETHICAL IDEALS.—An historical study of philosophic thought in ancient, mediaeval and modern times, with special reference to the problem of human conduct. The course will include, as an introduction, some study of the beginnings of reflective thought on ethical questions, in the race and the individual.

Daily; (21/2).

# **PSYCHOLOGY**

# ASSISTANT PROFESSOR BAIRD

S I. ELEMENTARY PSYCHOLOGY.—A beginners' course which aims to serve as a basis for further study in psychology education, and philosophy.

Daily; first six weeks; (2).

S 2. Introduction to Experimental Psychology.

One lecture a week and three laboratory periods; first six weeks; (1). (May be taken in connection with S I. Regular University students may count these combined courses as equivalent to Psychology 1).

S 3. THE PSYCHOLOGY OF THE LEARNING PROCESS.—A critical discussion of the problems of acquisition, memory, and imagination.

Three hours a week; first six weeks; (1).

## **PHYSICS**

S 2a. General Physics.—Lectures with experimental illustrations and recitations. The topics treated in 1908 were electricity and magnetism.

Daily; (1½). Mr. Stifler.

Prerequisite: Plane geometry and high school algebra.

S 2b. GENERAL PHYSICS LABORATORY.—A laboratory course in electricity and magnetism to accompany S 2a.

Three two-hour periods a week; (11/2). Mr. Stempel and Mr. Stephenson

Prerequisite: Plane geometry and high school algebra.

S E 18. Teachers' Course.—Discussion of practical problems that confront the teacher in high school physics. A laboratory course in physics suitable for the high school will be outlined and some of the experiments performed.

Two two-hour periods each week; (1). Mr. Stifler.

S 4. ELECTRICAL AND MAGNETIC MEASUREMENT.—Laboratory exercises with discussions and recitations.

Three three-hour periods a week for six weeks. (1). Assistant Professor Knipp.

S 31. INVESTIGATION OF SPECIAL PROBLEMS.—An advanced course in the laboratory or in design and calculation.

Six weeks. (1 or 2). Assistant Professor Knipp.

S 33. Seminary and Thesis.—This course is primarily for graduate students.

Six weeks; (1 or 2).

Assistant Professor KNIPP.

# PHYSICAL TRAINING

### FOR WOMEN

S I. PRACTICE.—Elementary gymnastics, marching, Swedish free exercise, dumb-bells, clubs, wands, fancy steps, simple exercises on various pieces of apparatus, tennis, basket-ball, hockey, golf, games.

Daily. Mrs. Lincoln, Miss Moulton.

S 2. PRACTICE.—This course offers opportunities for teachers who desire special instruction in theory and practice, and in special

lines of work. Public school methods and supervision, free and light gymnastics, dumb-bells, wands, gymnastic dancing, may-pole concerted figures, artistic gymnastics, out-door athletics. Folk dances and games.

Daily. Mrs. Lincoln, Miss Moulton.

S 3. Personal Hygiene, and First Aid to the Injured.

Two periods a week. Mrs. Lincoln, Miss Moulton.

S 4. SWIMMING.—The swimming-pool of the gymnasium will be open daily, affording opportunity for instruction and practice.

### FOR MEN

S I. GYMNASIUM PRACTICE.

Three periods a week.

Mr. HANA.

S 2. GYMNASIUM PRACTICE.—Intermediate and advanced heavy apparatus work.

Three periods a week.

Mr. HANA.

S 3. LECTURE.—Personal hygiene.

Once a week.

Mr. HANA.

S 4. SWIMMING.

Daily.

Mr. HACHMEISTER.

# POLITICAL SCIENCE

Mr. McGovney.

INTERNATIONAL LAW.—T. J. Lawrence, Principles of International Law; J. B. Moore, American Diplomacy. Students will also be required to read J. W. Foster's Practice of Diplomacy.

Daily;  $(2\frac{1}{2})$ .

ELEMENTS OF AMERICAN CONSTITUTIONAL LAW.—Teachers of government will find this course adapted to their needs. Cooley's Principles, third edition; Boyd's Cases on American Constitutional Law, second edition.

Daily; (21/2).

RHETORIC

(SEE ENGLISH)

# **SPANISH**

Mr. Fortier

S 1. Beginners' Course.—Pronunciation, grammar, composition, reading of easy texts.

Daily;  $(2\frac{1}{2})$ .

S 3. SUPPLEMENTARY WORK.—An opportunity is offered to do supplementary work in Spanish similar to that described above for French.

### ZOOLOGY

S I OF S E I. ELEMENTARY ZOOLOGY.—Types of vertebrate and of invertebrate animals will be studied from the ecological, morphological, and physiological points of view. The laboratory work will be done on those types most useful in high school courses. This course is intended to serve the purposes of the high school teacher, and also as an introduction to any University work in this department. Students who desire University credit for Zoology 10 must arrange with the instructor to do the required work.

Daily; two periods; (21/2).

Dr. Peters, Mr. Gross.

S 3. FIELD ZOOLOGY AND ORNITHOLOGY.

Two meetings a week; two periods; (1). Mr. Gross. Students who are taking either of the courses in zoology may make field trips with Mr. Gross for bird study on Saturday forenoons, when the weather permits, and do museum work on other Saturday forenoons and receive additional credit. (2½).

S 4. ZOOLOGICAL AND PHYSIOLOGICAL METHODS.

Three meetings a week; two periods (2).

Dr. Peters.

Prerequisite: S I or its equivalent.

# MILITARY SCIENCE

Edmond Gustave Fechét, Lieut. Col. U. S. A. (Retired), Commandant

The military instruction is under the charge of an officer of the United States Army. The course as a whole has special reference to the duties of officers of the line. A full supply of arms and ammunition is furnished by the War Department, including 1,200 U. S. magazine rifles (model 1898), and accourtements, two field pieces of artillery, and full equipment for a Signal Corps and a Hospital Corps.

Every male student, under twenty-five years of age, able to perform military duty, and not excused for sufficient cause, is required to drill twice each week until he has gained credit for four semester hours. He is also required to study drill regulations for Infantry, and to recite upon the text once a week until he gains credit for one semester hour.

On petition, properly approved, special students may postpone their military for not more than two semesters.

The practical instruction begins as soon as possible after he enters the University. The standings in study and drill are placed on record with other class credits; one semester of recitations and drill counts two hours, and the three remaining semesters of drill three hours, and are requisite to graduation in every University course.

The regiment, three battalions of five companies each, is composed mainly of the members of the freshman and sophomore classes. The non-commissioned officers are usually selected from the sophomore class, the lieutenants from the junior class, and the field officers and captains from the senior class and graduate school. There are 1,350 cadets and sixty commissioned officers in the regiment.

Artillery and Signal Detachments are organized mainly from those of the second year, or sophomore class, that have gained more than an average standing in the work of the previous year.

A special military scholarship, good for one year, is open to each student who attains the grade of a commissioned officer, the value of which is paid the holder at the close of the year. Ap-

pointments in the regiment are made on nomination by the commandant of cadets and confirmation by the Council.

Toward the close of the year a committee appointed by the Council examines candidates for nomination to the Governor of the State to receive commissions as brevet captains in the state militia. Candidates must be members of the senior class in full standing at the time of this examination; must have completed the course of military studies; must have served four semesters as commissioned officers, and must be approved by the Council as having good reputations as scholars, officers, and gentlemen.

The uniform is of cadet gray, coat trimmed with black mohair braid, trousers with black cloth stripe, cut after the U. S. Army nattern. In order that all uniforms worn at this University may be, in quality, make, and finish, in strict accordance with the specifications adopted by the Board of Trustees, all students enrolled in the military department are required to obtain them from that firm only that may, for the time being, be under agreement and bond with the Trustees to furnish said uniforms at a stated price and of standard quality.

The University Military Band is composed of students, and every full term of service therein is counted as one term of drill.

# PHYSICAL TRAINING

GEORGE A. HUFF, Director

MRS. JENNETTE CARPENTER LINCOLN, Director

### FOR MEN

The object of the work of this department is to preserve and improve the bodily health of the students by rational exercises and to teach proper intercollegiate sports. Regular classes are formed in swimming and fencing and for drill on the various gymnasium appliances. Lectures are given on personal hygiene.

All competitive athletic games are under the direct supervision of the director of physical training, and an examination is required to show that membership on any team will not cause injury, but will tend to improve the physical condition. No student whose class work is unsatisfactory is allowed to play on a University team.

### FOR WOMEN

The general health and development of the young women are looked after. Each student is given an examination in order to ascertain her physical condition; suitable exercise is prescribed, and advice given.

The work of the gymnasium is adapted to meet individual needs by organized progressive training according to the best known methods. The work embraces corrective, hygienic, and recreative exercise, including free and light gymnastics, marching, fancy steps, dumb-bells, clubs, wands, games, may-pole, basket-ball, swimming, etc. Out-of-door sports—tennis, hockey, and golf—are played in season.

The gymnasium is open at certain hours to all women of the University, under suitable restrictions. The uniform consists of navy blue serge regulation gymnasium suit, and gymnasium shoes.

The swimming-pool is open daily, except Saturday, from 10 to 12 a. m. and from 2 to 5 p. m. The regulation swimming suit of one piece must be made of either denim or mohair.

For a description of the gymnasium and the out-of-door playgrounds see pages 10 and 11.

# COLLEGE OF LAW

## **FACULTY**

EDMUND J. JAMES, Ph.D., LL.D., President
OLIVER A. HARKER, A.M., LL.D., Dean, and Professor of Law
BARRY GILBERT, A.B., LL.B., Professor, and Secretary of the College
THOMAS W. HUGHES, LL.M., Professor
FREDERICK GREEN, A.M., LL.B., Professor
GEORGE L. CLARK, A.B., LL.B., Professor
ELLIOTT J. NORTHRUP, A.B., LL.B., Associate Professor
TERENCE BYRNE COSGROVE, A.M., LL.M., Instructor

### **ADMISSION**

For admission to the College of Law an applicant must be at least 18 years of age and of good character, and must offer credit for fifteen units of high school or other preparatory work. These fifteen units must include the following:—

Algebra1½	units
English composition	unit
English literature2	units
Geometry, plane	unit
English and American History	unit

The remainder of the fifteen units must be made up from the subjects in List B, page 23. For the amount of work in these subjects necessary to count as the fifteen units of credit required see pages 24ff. For the various ways in which this credit may be secured see pages 30ff.

Graduates of colleges and of scientific schools of approved standing are admitted upon diploma or certificate without examination.

<sup>&</sup>lt;sup>1</sup>A special circular describing the work of the College of Law in detail may be obtained on application to the Registrar.

### ADVANCED STANDING

The following classes of persons are admitted to advanced standing:

- 1. Persons who produce from another law school, in good standing, certificates of having satisfactorily pursued courses in law, included in the following schedule, and of having received credit therein, provided that the time spent on such courses is equivalent to the time spent on the same courses in this College. Otherwise, an examination on such courses, given by the instructors in this College, must be satisfactorily passed.
- 2. Persons who have studied law privately, or in an attorney's office, and pass examinations prescribed by the faculty of the College.
- 3. Members of the bar of this state, who will be admitted to the third year class without examination.

### SPECIAL STUDENTS

Students of twenty years of age, or over, who do not desire to be candidates for a degree, are permitted to carry such law courses as may be approved by the faculty of the College of Law, under regulations prescribed by the University. Such students receive credit for work satisfactorily done, and may become candidates for graduation at any time by meeting the requirements of the College.

# METHODS OF INSTRUCTION

The methods of instruction used in this College are based largely upon the study of cases. Text-books are used to some extent, and lectures are occasionally resorted to, but the study of the case is regarded as the chief means of the attainment of legal knowledge and proficiency.

# LIBRARY AND MOOT COURT

The library consists of the leading text-books on all subjects; United States Supreme Court Reports; English Reports; Reports of the various states of the Union; American Decisions; American Reports and American State Reports; the current volumes of the West Company Reporter System, and the leading legal periodicals.

The Moot Court is held once a week for the purpose of familiarizing the student with legal procedure. It is presided over by the Dean, Judge O. A. Harker, the other officers being selected by

the law students from their own body. All second and third year students are required to be present, and to perform such duties as may be assigned them.

## LEGAL STUDY AND UNIVERSITY WORK

The Council of Administration will, upon application, in proper cases, apply credits earned in the College of Law upon other University courses.

Students registering in the College of Law may take any of the following courses: Economics, social science, and history, subject to the approval of the Dean of the College of Law and the professors concerned. By special arrangement other work in the College of Literature and Arts may also be taken.

# COURSE OF INSTRUCTION Leading to the Degree of LL.B.

### FIRST YEAR

- I. Contracts (Law 1); Torts (Law 2); Criminal Law (Law 5); Personal Property (Law 6).
- 2. Contracts (Law 1); Torts (Law 2); Real Property (Law 3); Common Law Pleading (Law 4); Domestic Relations (Law 7).

### SECOND YEAR

- I. Evidence (Law 8); Real Property (Law 10); Agency (Law 11); Equity (Law 12); Wills (Law 18); Moot Court (Law 26).
- 2. Evidence (Law 8); Real Property (Law 10); Equity (Law 12); Equity Pleading (Law 20); Moot Court (Law 26); Sales (Law 9); Carriers (Law 14); Public International Law (Law 30); Quasi-Contracts (Law 32).

# THIRD YEAR

- I. Illinois Procedure (Law 4a); Bills and Notes (Law 15); Private Corporations (Law 17); Constitutional Law (Law 22); Trusts (Law 16); Mortgages (Law 23); Bankruptcy (Law 25); Conflict of Laws (Law 31).
- 2. Private Corporations (Law 17); Partnership (Law 19); Suretyship (Law 21); Constitutional Law (Law 22); Moot Court (Law 26); Damages (Law 13); Municipal Corporations (Law 24); Future Interests in Property (Law 27); Insurance (Law 28).

# REQUIREMENTS FOR GRADUATION

Candidates for the degree of Bachelor of Laws must present credits for all the courses in the first year list, for courses 8, 10, 11, 12, 18, 20, 26, (2nd year), and any two of courses 9, 14, 30, and 32. The following third year subjects are required, 4a, 15, 17, 19, 21, 22, and 26, (3d year). Candidates for graduation must present a total of 28 units of credit in third year subjects, or a total, in all, of 84 units of credit.

The degree of Bachelor of Laws will be granted only to students who, before the beginning of the academic year in which they receive the degree, have successfully completed a full year's work in the College of Literature and Arts, or in the College of Science, or in a corresponding department of another University or College of recognized standing, or who shall attain in the law courses which they present for the degree, an average grade of 85 on the scale of 00. The rule does not apply to members of the Illinois bar, who are admitted to the third year class and may receive the degree of Bachelor of Laws upon the satisfactory completion of the work of that year, amounting to 28 units of credit.

# COLLEGE OF MEDICINE

For the Faculty of the College of Medicine, see p. xxxiv.

## HISTORY

The College of Medicine, the College of Physicians and Surgeons, is located on the corner of Congress and Honore streets, Chicago, in the heart of the medical quarter of the city. It was founded in the year 1882 by a number of representative physicians and surgeons. In 1892 the College had a thorough reorganization, and erected a commodious laboratory building, the first building exclusively for laboratory purposes erected by any medical school in the West. Since that time it has grown with steadiness and rapidity. It became the Medical Department of the University in April, 1897.

Chicago is the center of medical study in the United States. Since the winter of 1897-98 it has contained a larger number of medical students than any other city in the western hemisphere. These students are distributed among various medical colleges, of which the College of Physicians and Surgeons is in the front rank in respect to its facilities, the scope and thoroughness of its curriculum, and the place it occupies in the esteem of the medical profession.

# BUILDINGS, LABORATORIES, AND EQUIPMENT

In the summer of 1901 the College purchased from the Board of Education of Chicago the West Division High School property, situated adjacent to the original College building. This purchase, which represents, including alterations, an expenditure of over a quarter of a million of dollars, gives the College three-fourths of a city block lying between Harrison and Congress, and Honore and Lincoln streets. The new College building is a brick and stone structure two hundred feet long by one hundred and ten feet deep, and five stories high. It fronts on four streets, and stands on a lot entirely adequate in size for such a building, so that it is freely supplied with air and light. The building contains three large lec-

ture rooms with a seating capacity of two hundred each, a clinical amphitheater modeled on modern plans for perfect asepsis, with a seating capacity of over three hundred; an assembly hall with a seating capacity of seven hundred, and many recitation rooms seating from thirty to fifty students each. A three-story annex to the main building, especially designed and constructed for laboratory use, is devoted to the departments of biology, histology, embryology, pathology, bacteriology, and chemistry; the departments of materia medica, therapeutics, physiology, miscroscopical and chemical diagnosis occupy quarters in the main building. All of these laboratories have unobstructed outside light. The accommodations are ample, so that each student has a generous allotment of light, air and working space. The laboratories are furnished with convenient and substantial work-tables, desks, and lockers, and are equipped with the most modern apparatus. There is an abundant supply of microscopes and lenses, including as many oil immersions as are needed. There is a new projection apparatus for the illustration of lectures in pathology and other departments by means of stereopticon views. The general equipment of the building and the special equipment of the laboratories are in keeping with the size and character of the building. The assembly hall is so constructed that it may be converted into a gymnasium. Indeed the essential appliances of a well-equipped gymnasium, including a number of shower baths, are already installed and are in daily use.

# REQUIREMENTS FOR ADMISSION\*

First, a certificate of good moral character from two reputable physicians; and,

Second, a diploma of a State normal school, an accredited high school, or the academy of the University of Illinois, or of a similarly accredited school of another university, whose entrance requirements are equivalent to the entrance requirements of the University of Illinois.

Third, a certificate of admission to a literary or scientific college whose standards are equal to those of the University of Illinois.

Fourth, a certificate of successful examination conducted by a State Board of Examiners, whose standards are at least equal to those of an accredited high school of the University of Illinois; or, Fifth, a certificate signed by an acceptable principal of an ac-

<sup>\*</sup>Students must file in the Secretary's office, at the time of entrance, documentary evidence of compliance with the requirements for admission.

credited high school or by the examiner of the faculty of a recognized literary or scientific college or university, or by the State or City Superintendent of Public Instruction, or a Superintendent of Public Schools, of having successfully passed an examination in all the branches embraced in the curriculum of a four years' course of an accredited high school.

Beginning with the session of 1910, one year of nine months of college work will be required, consisting of chemistry, biology, physics, and modern language, preferably German, in addition to the high school diploma.

## Admission as Special Students

Students not candidates for graduation may take special work after satisfying the Secretary that they possess the requisite training to pursue such work profitably. Courses in practical anatomy especially designed for practitioners are given by Professor H. O. White. Such students are required to pay the matriculation fee of \$5.00 and a breakage deposit of \$20.00 for the winter term, and in addition \$10.00 or \$20.00 per term, according to the amount of work taken in each course of study. Special students are not given credit for time.

### ADVANCED STANDING

Students who present evidence of having attended one or more years at other medical institutions in good standing with the Illinois State Board of Health, and of having complied with the entrance requirements of this College, may be admitted to advanced standing, and receive credit for time and also for work done, if such work be equal to that offered by this College. Students thus advanced may not complain of any conflict of hours, nor absent themselves from any part of the lower conflicting course; but they make up deficiencies in the work of one term in any other term in which such work is offered.

Graduates of medical colleges in good standing with the Illinois State Board of Health, who have passed a State Board examination equivalent to the Illinois State Board examination, may be admitted to the graduating class without examination by complying with all the other requirements of undergraduates.

Examinations for advanced standing are held only during the week immediately preceding the opening of the winter term.

# REGISTRATION

Students are required to register in the office of the Secretary immediately upon the opening of the term for the work in that term, and credit will be allowed only in the branches in which the students are registered. Students will be registered in the order in which their fees are paid.

## COURSES OFFERED

The student is offered his choice of the following courses:

He may take the entire course of four years offered in the College of Science at Urbana, followed by four full years in the Medical College in Chicago, making a continuous course of eight years.

A second, six-year course may be made up by taking the first three years of the medical course in the College of Science at Urbana, and the last three years in the Medical College at Chicago. This furnishes a medical course of six years, with two degrees—Bachelor of Science at the end of the fourth year, and Doctor of Medicine at the end of the sixth year.

The student may, in the third place, take the four years of the medical course as it is offered in the Medical College in Chicago alone. During the first two years of this regular course the work is confined to the sciences fundamental to practical medicine. During the freshman year this consists of work in histology, biology, embryology, chemistry, materia medica, human anatomy, physiology and bacteriology. During the sophomore year the study of physiology, chemistry and human anatomy is continued, and in addition the student takes up pathology and therapeutics. With the junior year the study of the practical branches of medicine is begun. The student also begins clinical and bedside work, and receives instruction in medical and surgical specialities. During the junior and senior years 1,000 hours of work are required in each year. Of this 1,000 hours approximately 500 are "specified," and the remainder "elective." This plan permits a student to specialize along the lines best suited to his purpose. A certain amount of clinical work is required, but the student is permitted to elect the work offered by all clinical teachers, and permitted to attend all lectures and clinics.

### THE SIX-YEAR COURSE

Students wishing so to combine their work in general science with their professional studies in medicine as to receive both degrees may accomplish this purpose by pursuing at the University in Urbana three years of work, including a year of medical studies, and then continuing their medical work at the Medical Department in Chicago.

The first three years must include all of the subjects in the general prescribed list, page 82 and the following list of studies, especially prescribed for this course:

Chemistry 9c; 2 hours

Botany 5; 5 hours

Latin 1; 4 hours

Physics 2a; 8 hours

Physiology I, or I and 2; 10 or 20 hours

Psychology 1, 9; 5 hours

Zoology 10, 2, 3; 16 hours

1. One year's credit in Latin is required, if Latin has not been offered for entrance.

The prescribed studies should be taken according to the prospectus to be found on page 87.

The work of the fourth year is entirely elective.

Students having completed the three years of prescribed work at the University, together with electives sufficient to amount to 97 hours' credit, will be given the degree of Bachelor of Arts at the commencement next following the completion at the medical college of the work in human anatomy, physiology of the special senses and of the nervous system, therapeutics, general pathology, pathological anatomy, and surgical pathology (virtually one year's work).

The following subjects included in the prospectus all count toward the medical degree:

Chemistry (general, organic, qualitative and quantitative analysis) and Toxicology, Biology, (Zoology), Physiology, Normal Histology, Embryology, and Bacteriology.

Upon the satisfactory completion of the remaining three years of the medical course the University will confer the degree of Doctor of Medicine.

## ARRANGEMENT OF THE COURSE

The collegiate year is divided into two terms, called respectively the winter term and the summer term. The winter term consists

of a session of thirty-six weeks, beginning the latter part of September, 1909, and ending early in June, 1910, at which time the annual graduating exercises will be held. Attendance upon the full winter term is required in order to secure credit for a year's work, and attendance upon four winter terms is required for graduation. The summer term consists of a session of twelve weeks, beginning immediately after the close of the winter term. The schedule for the summer term may be had on application. The course is open to both graduates and undergraduates. It affords opportunities to practitioners to do work along special lines. Undergraduates who attend it will receive credit for the same, either toward making up any study in which they are deficient, or as a credit toward the work of the next session, except in the studies of the senior year which will be final only for those who have taken a previous course of instruction in those studies. Summer students are given scholarship credit, but the time does not apply on the required time for graduation.

## METHODS OF INSTRUCTION

The curriculum covers four years. During the first two years the time of the student is about equally divided between laboratory and didactic work. The plan of instruction in the College contemplates the freest use of laboratory teaching. Wherever possible, practical laboratory work is made to supplement didactic teaching. Students are taught not only by prepared specimens, but they are required to prepare their own specimens from the original material and are thus made familiar with technical methods and competent to carry a technical investigation through all of its stages. During the junior and senior years the time is about equally divided between clinical and didactic work (much of which is done in classroom), with a preponderance of clinical instruction in the senior year. This clinical instruction is carried on, as far as possible. with the student at the patient's side. Attendance upon clinics is required in the same way as upon lectures, and the students are graded upon, and given credit for, their work in the clinical courses, just as they are for the work in the didactic and laboratory courses. The students of the junior and senior years are divided into classes for dispensary work, and these classes have instruction in rotation in the various departments of practical medicine and surgery.

### DESCRIPTION OF COURSES

### FRESHMAN YEAR

- 1. Human Anatomy.—Lectures and recitations six hours a week, 216 hours. Laboratory work four hours a week, 144 hours. Gray's Anatomy, second American edition, Piersol, Cunningham, Morris Spalteholz, Sobotta and McMurrich's Anatomical Atlases, Santee's Brain and Spinal Cord, Barker's Anatomic Nomenclature (BNA).

  Professor White, Instructors Hanelin, Woof.
- 2. BIOLOGY, HISTOLOGY AND EMBRYOLOGY,—Lectures four hours a week, 144 hours. Laboratory work six hours a week, 216 hours. Baily, Stöhr, Schafer, Heisler, Huxley and Martin. Professor Wynekoop, Adjunct Professor Fischer, Instructor Gilbert H. Wynekoop.
- 3. Physiology.—Lectures three hours a week, second semester, 54 hours. Howell's *Text-Book of Physiology*, Tiegerstadt, Stewart's *Manual*, or Hall's *Text-Book*. Professor Dreyer, Instructor Deacon.
- 4. General Chemistry.—Lectures and recitations four hours a week, 144 hours. Laboratory work six hours a week, 216 hours. Remsen, Simon, Holland, Jones. Professor Wentz.
- 5. Prescription Writing and Pharmacy.—Lectures and recitations two hours a week, one semester, 36 hours. Laboratory work two hours a week, one semester, 36 hours. Fantus' Pharmacy and Prescription Writing.

  Adjunct Professor Heintz.
- 6. Bacteriology.—Lectures two hours a week, one semester, 36 hours. Laboratory work, six hours a week, one semester, 108 hours. Zapffe, Abbott. Reference, Chester. Professor Gehrman.

# SOPHOMORE YEAR

- 1. Human Anatomy.—Lectures four hours a week, 144 hours. Laboratory work four hours a week first semester, six hours a week second semester, 180 hours. Morris' Human Anatomy, fourth edition. Cunningham, Piersol, Gray, Santee's Brain and Spinal Cord, Cunningham's Practical Anatomy, Barker's BNA, Spalteholz.

  Professor Santee, Instructors Allen, Stearns.
- 2. Physiology.—Lectures five hours a week first semester, three hours a week second semester, 144 hours. Laboratory work three hours a week, 108 hours. Howell's *Text-Book of Physiology*, Tiegerstedt, Stewart Hall. Professor Dryer, Instructors Hay-Hurst, Deacon.

- 3. Physiological and Pathological Chemistry and Toxicology.—Lectures and recitations three hours a week, 108 hours. Laboratory work three hours a week, 108 hours. Hawk, Haliburton, Hammersten.

  Professor Dreyer.
- 4. PHARMACOLOGY AND THERAPEUTICS.—Lectures and recitations six hours a week, 216 hours. Laboratory work two hours a week, 72 hours. Cushny, Sollmann, Baruch, Hutchison, Morton, selected volumes of Cohen's System.

Professor Fantus, Adjunct Professor Heintz. Course A.—Pharmacology and Medicinal Therapeutics, a course on the action and uses of medicines, the symptoms, morbid anatomy and treatment of poisoning. Four hours a week, 144 hours, and laboratory work.

Course B.—Non-Medicinal Therapeutics, including Hydrotherapy, Electrotherapy, Mechanotherapy, Dietetics, and Climatology.

Two hours a week, 72 hours, and laboratory work.

5. General Pathology and Pathological Anatomy.—Lectures two hours a week, 72 hours. Laboratory work four hours a week, 144 hours. Delafield and Prudden.

Associate Professor O'BYRNE.

6. Autopsies.—Two hours a week, second semester, 36 hours.

Associate Professor O'Byrne.

# JUNIOR YEAR

1. Practice of Medicine.—Recitation six hours a week, 216 hours. Adjunct Professor E. G. Earle.

Course A.—Infectious Diseases and Intoxicants, 54 hours.

Course B.—Constitutional Diseases and Diseases of the Kidneys, 54 hours.

Course C.—Diseases of the Digestive Organs, 54 hours. Course D.—Diseases of the Heart and Lungs, 54 hours.

- 2. Neurology.—Lectures four hours a week, one semester, 72 hours. Mettler, Gowers. Associate Professor Mettler.
- 3. Physical Diagnosis.—Lectures and personal training in divided classes, each class three hours a week, one semester, 54 hours. Loomis. Professors Corwin, Wiggin, Assistant Professor Weatherson.
- 4. Dermatology.—Lectures two hours a week, one semester, 36 hours. Pusey. Professor Pusey, Adjunct Professor Harris.
- 5. Practice of Surgery.—Recitations four hours a week, 144 hours. Rose and Carless. Professors Sherwood, Davison, Adjunct Professors Humiston, O'Byrne.

- 6. ORTHOPEDIC SURGERY.—Lectures one hour a week, one semester, 18 hours. Bradford and Lovett, Whitman. Professor Porter.
- 7. OPERATIVE SURGERY.—Lectures two hours a week, one semester, 36 hours. Trevis, Bryant, Bickham, Wharton, and Ochsner.

  Professor Fuller, Assistant Professor Seifert.
- 8. Surgical Pathology.—Laboratory work two hours a week, one semester, 36 hours. Beck. Professor Beck.
- 9. Laryngology, Rhinology and Otology.—Lectures one hour a week, one semester, 18 hours. Ballenger, Wippern, Kyle, Bacon, and Barr.

  Professor Ballenger.
- 10. GENITO-URINARY AND VENEREAL DISEASES.—Lectures two hours a week, one semester, 36 hours. Lydston. Professor Lydston.
- 11. Obstetrics.—Recitations two hours a week, one semester, 36 hours. Bacon's Synopsis, Edgar, Williams, Hirst, Peterson.

  Professor Yarros, Adjunct Professor Simon.
- 12. GYNECOLOGY.—Recitations two hours a week, one semester, 36 hours. Byford, Ashton, Bovee, Kelly, Webster.

Adjunct Professor Barrett, Brumback.

- 13. MICROSCOPICAL AND CHEMICAL DIAGNOSIS.—Lectures and quizes one hour a week, one semester, 18 hours. Laboratory work in divided classes, 10 hours a week, for three weeks, 30 hours. Emerson Sahli.

  Adjunct Professor Gardner.
- 14. MEDICAL JURISPRUDENCE.—Lectures one hour a week, one semester, 18 hours. Reese. Professor Brothers.
- 15. DISPENSARY CLINICS.—Three hours a week, one semester, 54 hours.
- 16. Medical Clinic.—Two hours a week, 72 hours. Professor Wells. 17. Same.—One hour a week, 36 hours. Professor Goodkind. 18. Same.—One hour a week, 36 hours. Adjunct Professor Harris. 19. Same.—One hour a week, 36 hours. Professor Fantus.
  - 20. MEDICAL CLINIC.—One hour a week, 36 hours.

Professor Fantus.

- 21. NEUROLOGICAL CLINIC.—One hour a week, 36 hours. Professor Sanger Brown. 22. Same.—One hour a week, 36 hours.

  Assistant Professor H. I. Davis.
  - 23. Dermatological Clinic.—One hour a week, 36 hours.

    Professor Pusey.
- 24. Surgical Clinic.—Two hours a week, 72 hours. Professor Eisendrath. 25. Same.—One hour a week, 36 hours. Professor

EISENDRATH. 26. Same.—One hour a week, 36 hours. Adjunct Professor Heineck. 27.—Same (Orthopedic).—One hour a week, 36 hours. Professor Porter. 28. Same.—One hour a week, 36 hours. Professor Beck. 29. Same.—One hour a week, 36 hours. Adjunct Professor Humiston.

- 30. Laryngological Clinic.—Two hours a week, 72 hours. Professor Ballenger. 31. Same.—One hour a week, 36 hours. Associate Clinical Professor Brown. 32. Same.—One hour a week, 36 hours. Clinical Professor Joseph Beck.
  - 33. Gynecological Clinic.—Two hours a week, 72 hours.

    Professor Van Hoosen.

### SENIOR YEAR

All Senior students are required to attend the Hospital and Dispensary Maternity clinics. The latter is under the direction of Professor of Clinical Obstetrics. RACHELLE S. YARROS.

1. Practice of Medicine.—Lectures and recitations six hours a week, 216 hours. Osler, Anders, French.

Professors Quine, Associate Professor Williamson.

2. Neurology.—Lectures and recitations four hours a week, one semester, 72 hours. Gowers.

Professor King, Adjunct Professor C. B. King.

- 3. PSYCHIATRY.—Lectures three hours a week, one semester, 54 hours. Defendorf. Professor Oscar A. King, Adjunct Professor C. B. King, Assistant Professor Darling.
- 4. DISEASES OF THE CHEST.—Lectures and recitations three hours a week, one semester, 54 hours. On the lungs, Lindsay. On the heart and arterial system, Colbeck.

  Professor Tice.
- 5. Pediatrics.—Lectures three hours a week, one semester, 54 hours. Holt, Taylor and Wells, Cotton.

Professor Frank B. Earle, Assistant Professor Benson.

- 6. Practice of Surgery.—Lectures two hours a week, 72 hours.

  Professor Eisendrath.
- 7. OPHTHALMOLOGY.—Lectures one hour a week, one semester, 18 hours. Fuchs, Fox, De Schweinitz, May, Jackson.
- Professor Harper, Professor Loring, Assistant Professor Findlay.
- 8. Obstetrics.—Lectures, demonstrations and quizes, two hours a week, 72 hours. Bacon's *Synopsis*, Williams, Edgar, Hirst, Peterson.

Professor Bacon, Assistant Professors Bachelle, Hallenbeck.

- 9. GYNECOLOGY.—Lectures two hours a week, one semester, 36 hours. Byford, Penrose, Reed, American Text-Book.
  - Professors Byford, Newman, Adjunct Professor Barrett.
- 10. Hygiene.—Lectures two hours a week, one semester, 36 hours. Bergey, Harrington, McFarland, Park.

Professor GEHRMAN.

- 11. Autopsies.—Two hours a week, one semester, 36 hours.

  Associate Professor O'Byrne.
- 12. DISPENSARY CLINICS.--Three hours a week, one semester, 54 hours.
- 13. Medical Clinic.—Two hours a week, 72 hours. Professor Wells. 14. Same.—Two hours a week, 72 hours. Professor Williamson. 15. Same.—One hour a week, 36 hours. Professor Williamson. 16. Same.—One hour a week, 36 hours. Professor Goodkind. 17. Same.—One hour a week, 36 hours. Professor Tice. 18. Same.—One hour a week, 36 hours, Professor Patton. 19. Same.—One hour a week, 36 hours. Adjunct Professor Harris.
- 20. NEUROLOGICAL CLINIC.—One hour a week, 36 hours. Professor King. 21. Same.—One hour a week, 36 hours.

Assistant Professor H. I. Davis.

- 22. Pediatric Clinic.—One hour a week, 36 hours. Professor Earle, Assistant Professor Benson. 23. Same.—One hour a week, 36 hours. Associate Professor Hatfield. 24. Same.—One hour a week, 36 hours. Adjunct Professor Koehler.
- 25. Surgical Clinic.—Two hours a week, 72 hours. Professor Steele. 26. Same.—One hour a week, one semester, 18 hours. Professor Steele. 27. Same.—Two hours a week, 72 hours. Professor Davis. 28. Same.—One hour a week, 36 hours. Professor Davis. 29. Same.—Two hours a week, 72 hours. Professor Harsha. 30. Same.—Two hours a week, 72 hours. Professor Ochsner. 31. Same.—Two hours a week, 72 hours. Professor Ferguson. 32. Same.—One hour a week, 36 hours. Professor Davison. 33. Same.—One hour a week, 36 hours. Professor Davison. 33. Same.—One hour a week, 36 hours.
- 34. OPHTHALMOLOGICAL CLINIC.—One hour a week, 36 hours. Professor Harper, Professor Loring, Assistant Professor Findlay. 35. Same.—One hour a week, 18 hours. Adjunct Professor Gamble. 36. Same.—One hour a week, 36 hours. Associate Clinical Professor Noble. Extra Mural. 37. Same.—One hour a week, 36 hours. Professor Fisher.

38. Gynecological Clinic.—Two hours a week, 72 hours.

Professor Byford, Adjunct Professor Barrett.

39. GYNECOLOGICAL CLINIC.—Two hours a week, 72 hours. Professor Byford, Adjunct Professor Barrett. 38. Same.—One hour a week, 36 hours. Clinical Professor Lucy Waite, Extra Mural.

# TOTAL HOURS OF WORK

		Freshman Year			
			Didactic	Laboratory	
I	Ana	tomy	216	144	
2	Biol	ogy, Histology and Embryology	144	216	
3	Phy	siology	54		
4	Gen	eral Chemistry	144	216	
5	Pres	scription Writing and Pharmacy	36	36	
6	Bact	eriology	36	108	
		C V	630	720	
		Sophomore Year	Didactic	Laboratory	
I	Ana	tomy		180	
2		siology		108	
3		siological and Pathological Chemi		100	
3	I my.	and Toxicology		108	
	Dha	rmacology and Therapeutics			
4		2		72	
5		nology	•	144	
U	Aut	opsies	· · · ·	36	
			684	648	
		JUNIOR YEAR			
SPECIFIED REQUIRED SUBJECTS HOURS					
	I	Physical Diagnosis		54	
	2	Dermatology			
	3	Surgery			
	4	Genito-Urinary Diseases			
	5	Surgical Pathology		36	
	6	Laryngology, Rhinology and Otolo	gv	18	
	7	Obstetrics			
	8	M. & C. Diagnosis			
	9	Medical Jurisprudence			
				126	

The specified required subjects and the elective subjects, together with the hours assigned, are shown in the accompanying table.

ELECTIV	YE SUBJECTS HOURS
I	
	rse A—Infectious Diseases and Intoxicants, 54 hours.
	rse B-Constitutional Diseases and Diseases of the Kidney
54 hou	rs.
	rse C—Diseases of the Digestive Organs, 54 hours.
Cou	rse D—Diseases of the Heart and Lungs, 54 hours.
2	Neurology 72
3	Orthopedic Surgery
4	Operative Surgery 36
5	Gynecology 36
6	Dispensary Clinics 54
7	Medical Clinic (Wells)
8	Medical Clinic (Goodkind)
9	Medical Clinic (Harris)
10	Medical Clinic (Fantus)
II	Medical Clinic (Michel)
12	Neurological Clinic (H. I. Davis) C. C. Hosp. 36
13	Dermatological Clinic (Pusey)C. C. Hosp. 36
14	Surgical Clinic (Eisendrath)
15	Surgical Clinic (Eisendrath)
16	Surgical Clinic (Heineck)
17 18	Surgical Clinic (Beck)
	Surgical Clinic (Humiston)C. C. Hosp. 36
19	Laryngological Clinic (Ballenger)
20 2I	Laryngological Clinic (Brown)
22	Laryngological Clinic (Beck)C. C. Hosp. 36
23	Gynecological Clinic (VanHoosen)
23	——————————————————————————————————————
	118
	SENIOR YEAR
	ED REQUIRED SUBJECTS HOURS
I	Medicine216
2	Neurology
3	Psychiatry 54
4	Chest Diseases 54
5	Pediatrics 54
6	Ophthalmology
7	Obstetrics 72

The specified required subjects and the elective subjects, together with the hours assigned, are shown in the accompanying table.

E

8	Gynecology	. 36	
9	Hygiene	. 36	
10	Autopsies	. 36	
11	Dispensary Clinics	. 54	
			702
		URS	
I	· ·		
2			
3			
4			
5			
6			
7	Medical Clinic (Patton)	. 36	
8	Medical Clinic (Harris)	. 36	
9	Neurological Clinic (King)	36	
10	Neurological Clinic (H. I. Davis) C. C. Hosp		
II	Pediatric Clinic (Earle) (Benson)		
12	Pediatric Clinic (Hatfield)		
13	Pediatric Clinic (Koehler)		
14	Surgical Clinic (Steele)		
15	Surgical Clinic (Steele)		
16	Surgical Clinic (Davis)		
17	Surgical Clinic (Davis)		
18	Surgical Clinic (Harsha)		
19	Surgical Clinic (Ochsner	•	
20	Surgical Clinic (Ferguson)		
21	Surgical Clinic (Davison)	-	
22	Surgical Clinic (Davison)U. Hosp		
23	Ophthalmological Clinic (Harper or Loring)		
24	Ophthalmological Clinic (Gamble)		
25	Ophthalmological Clinic (Fisher)		
26	Ophthalmological Clinic (Noble) W. S. Hosp		
27	Gynecological Clinic (Byford)	. 72	
		—_	278

1278

As will be seen from the foregoing tables, the College offers work in the several years as follows: In the Freshman year, 630 hours of didactic and 720 hours of laboratory instruction; in the Sophomore year, 684 hours of didactic and 648 hours of laboratory instruction, all of which is required; in the Junior year, 1,614 hours of didactic and clinical instruction; and in the Senior year, 1,944

hours of didactic and clinical instruction. In the Junior and Senior years, 1,000 hours of instruction constitutes a year's work. Each student is required to take all the "Specified Required Subjects" in his year. In the Junior year these subjects amount to 426 hours. The remaining 574 hours he can make up from the "Elective Subjects," exercising to a large extent his own choice in the selection of the subjects which he will take. In the Senior year the specified required subjects amount to 702 hours. The remaining 208 hours the student can select from the "Elective Subjects. It is required, however, that in both the Junior and Senior years he shall include among his elective subjects at least 120 hours of medical clinics and 120 hours of surgical clinics.\* At the time of registration the student is required to designate the subjects which he elects in order to complete his 1,000 hours, and he will not be enrolled in the classes until his course has been approved by the Secretary. The Secretary has authority to refuse to approve of the course selected by any student when for any reason it seems to him not well selected.

# CLINICAL FACILITIES

### DISPENSARY CLINICS

The Dispensary occupies the entire first floor of the main building. Connected with the reception room are ten clinic rooms in daily use for the purpose of clinical instruction. During the past five years there have been treated in these rooms an average of 10,000 patients each year.

During the Junior year these clinics are elective, but during the Senior year each student is required to take a course of instruction in each department under the direction of members of the Faculty. The student has the opportunity to examine and treat the patient himself under the guidance of teachers, and thus receives practical experience.

### AMPHITHEATER CLINICS

More than 600 clinics besides the Dispensary clinics are given in the College during the collegiate years. Practically all diseases seen in the temperate zone are demonstrated and all of the operations of surgery are done in these clinics.

Senior students are selected to examine and diagnosticate many

<sup>\*</sup>Clinics in Diseases of the Chest, Nervous System, Pediatrics and Dermatology are classified as Medical.

of these cases and are detailed to assist in the operations. Senior students are also appointed as internes for fixed periods; and they receive special certificates for such service.

## MATERNITY CLINICS

To provide clinical material for the practical instruction of students in obstetrics the College supports an obstetrical ward in the West Side Hospital, one in the University Hospital, and an outpatient maternity clinic. The hospital patients are especially desirable because they serve for a careful study of pregnancy, labor and the puerperium and the management of new-born infants. In the out-patient clinic, situated in a densely populated part of the city, the student learns to provide the necessary equipment and to deal with patients in their homes.

These courses furnish sufficient material so that every student can observe and assist in conducting, under the direction of the teacher in charge, several cases, one or more of which is in the Hospital. While taking the course, which lasts two or three weeks, students sleep in rooms provided for the purpose at the Dispensary and Hospital. They not only attend the confinement, but make daily visits to the puerpera, making labor, puerperium and infant records, and helping to care for mother and child. Each member of the Senior class is obliged to take this course, for which a fee of \$15 is required.

### HOSPITAL CLINICS

Hospitals.—The West Side Hospital, containing 125 beds, is connected with the College by a corridor. The University Hospital, corner Ogden Avenue, Congress and Lincoln streets, opposite the College, contains two operating rooms, amphitheater of seventy-five seats on the first floor, and one hundred beds; and its clinical advantages are used exclusively for the students of this College. Within half a block of the College is the Cook County Hospital. This institution is the chief free hospital in Chicago. During the past year it has cared for 30,000 patients, and supplies a quantity and variety of material which no private institution can command. In the amphitheater of this hospital is conducted much of the clinical instruction of the College.

Medical appointments in this institution are made by the Civil Service Board each year. The internes, thirty in number, and externes are selected each spring by competitive examination. Only graduates of medical colleges of Cook County are eligible for these examinations. The internes serve eighteen months, and receive

their board and laundry and have rooms in the hospital. They do a large amount of surgical, medical and obstetrical work.

There are more than sixty other public and private hospitals in Chicago. All of these hospitals appoint from one to three internes by competitive examination. The students of this College are required to attend the clinics of the Cook County Hospital during their Junior and Senior years. The hospital tickets cost \$5 each, and are for sale at the office of the Warden. They admit the holders to all clinics and autopsies, and to all public operations and lectures in the hospital grounds.

The County Morgue is located in the hospital grounds, and daily post-mortems are held by the pathologists of the hospital. The students are required to attend during two years.

Members of the Faculty are connected with and give clinical instruction, to which students are admitted under certain conditions, in the following hospitals:

Cook County Hospital West Side Hospital Augustana Hospital St. Mary's Hospital Chicago Hospital Baptist Hospital St. Anne's Hospital Woman's Hospital Samaritan Hospital Alexian Brothers' Hospital Illinois Eye and Ear Infirmary Norwegian Deaconess Hospital Tabitha Hospital

### EXTRA MURAL CLINICS

Arrangements exist with several hospitals whereby the Senior students are permitted to attend both amphitheater and dispensary clinics in groups of from six to twenty-four. Attendance upon these clinics is elective, but is accepted upon certain conditions in lieu of attendance upon registered clinics; such conditions will be defined by the Secretary. Arrangements have also been made whereby bedside instruction may be given in sections.

Opportunities for externe service (practically the work of Junior interne) are abundant for Senior students whose didactic work does not conflict. These courses are arranged in advance either through the Secretary or through some member of the attending staff.

# QUINE LIBRARY

The Quine Library is the best equipped private medical library west of the Alleghany Mountains. It contains all standard text-books, books of reference and periodicals for the use of medical students, and is under the direction of a trained librarian. The

bound volumes now number 11,000, and include practically every important text-book and monograph on medical subjects. One hundred and twenty medical periodicals are regularly received.

### **SCHOLARSHIPS**

Through the munificence of the late Prof. R. L. Rea a fund has been provided for four scholarships each year for indigent worthy students. These scholarships will be awarded by the officers of the Faculty to the four students whose credentials and qualifications for the study of medicine entitle them to participate in the benefits of the Rea fund.

The students whose names follow received benefit under the

above Scholarship during the season of 1907-08:

Harry Bardwell Donaldson

Bernard Vincent McCabe

Edmund Herman Mensing

Lewis Henry Nowack

Emily W. L. Schofield Scholarship of the Woman's Board of Missions of the Interior:

Ethel Mae Laybourne.

Emily W. S. Schofield Scholarship of the Northwest branch of Foreign Missionary Society of the M. E. Church:

Cora Irene Kipp.

Woman's Presbyterian Board of Missions of the Northwest:

Zerefeh E. Bashur.

# FEES AND EXPENSES

A student will not be permitted to register for his year's work nor to have his name placed upon the class rolls until the matriculation fee, laboratory deposit and one-half of his tuition fee are paid. For a full statement of fees see page 56.

# REQUIREMENTS FOR GRADUATION

I. Satisfactory evidence of good moral character. 2. Attendance during four collegiate years, the last of which must have been in this institution, and the completion of the required work of each year. 3. Satisfactory deportment. 4. Payment in full of all fees.

For catalog and detailed information address Secretary College of Medicine, Congress and Honore Streets, Chicago, or Registrar, University of Illinois, Urbana.

# COLLEGE OF DENTISTRY

For Faculty of College of Dentistry see p. xli.

# BUILDINGS AND EQUIPMENT

The College of Dentistry begins its seventh collegiate year October 8, 1909.

The College occupies its own building, situated on the corner of Harrison and Honore streets in Chicago. This building is a six-story stone and brick structure, constructed at a cost of \$100,000, and is occupied exclusively by the School of Dentistry. It is commodious and complete in every particular. The building stands on the corner of two wide streets and is separated from the adjacent buildings on the north and east by wide, open spaces, so that the provisions for ventilation, and especially for light, are of the best possible character. It is located directly opposite the Cook County Hospital, in the center of the clinical field of Chicago, and is thus at all times insured of abundance of clinical material. Adjoining the college on the west is the West Side Hospital, and on the north are the new buildings of the College of Medicine.

The Infirmary occupies the entire top floor of the main building. Large skylights, as well as north, east, south and west sidelights assist in making the Infirmary ideal. As there are no immediately adjoining buildings, the light is unobstructed on all sides. The height is such that the observer has a birds-eye view of the city in all directions.

The Infirmary is divided into the Operative, Prosthetic and Orthodontia sections.

These departments are equipped with new chairs of the latest improved pattern, with fountain cuspidors attached, double-decked stands for accommodating students' operating cases, and sanitary wash-bowls with hot and cold water, formaldehyde instruments sterilizer and all appliances that in any way assist in making the Infirmary a model.

The Infirmary has adjacent to it a prosthetic laboratory, in which the students can do their molding, soldering and fusing. Compressed air apparatus, electric ovens for porcelain work, electric lathes, and such other apparatus as go properly to equip an ideal prosthetic laboratory are provided.

# REQUIREMENTS FOR ADMISSION

Persons desiring to enter this college must bring with them a diploma of a State normal school, an accredited high school or academy of the University of Illinois, or of a similarly accredited school of another university, whose entrance requirements are equivalent to the entrance requirements of the University of Illinois or a certificate of admission to a literary or scientific college whose standards are equal to those of the University of Illinois.

Persons not having these credentials will be admitted upon examination and approval of the State Superintendent of Public

Instruction or his deputy.

This college will receive no student who is not present within ten days after the opening day of the session in each year, or in case of necessary delay, by reason of illness, properly certified by the attending physician, within twenty days after the opening day.

Students matriculating agree thereby to accept the discipline im-

posed by the faculty.

It is desirable that students should register early, since the order of assignment of seats in the lecture halls is based upon the order of time of registration.

### ADMISSION TO ADVANCED STANDING

Persons having qualifications for admission to this college, and having studied dentistry in other schools for at least one year, may be admitted to advanced standing after satisfying the faculty that they have completed an equivalent amount of work to that which is exacted by this college in the respective classes.

Students having had one or more years in the Department of Medicine, or other medical college of equal rank, are allowed credit toward graduation only for so much of the required course in dentistry as was included in their medical course. But they must

be registered for full time in the dental course.

Graduates of the University with the A.B. or B.S. degree, who have taken the biological and chemical courses of this University, can secure advanced standing in the dental course, providing they have done full work in the science subjects required in the dental curriculum.

Graduates of reputable medical colleges will be admitted to the Junior class, and are excused from lectures and examinations upon general anatomy, chemistry, histology, pathology and physiology, but are required to take lectures and examinations in dental subjects in accordance with the rules of the National Association of Dental Faculties.

# REQUIREMENTS FOR GRADUATION

The degree of Doctor of Dental Surgery will be conferred on students who shall have completed the course of instruction, attended the required time, performed the work required, and shall have passed satisfactory final examinations. To be eligible to the degree, the student must be twenty-one years of age, possess a good moral character, and must have paid all fees.

### METHODS OF INSTRUCTION

Instruction is given by means of lectures and recitations, demonstrations and laboratory work. The time of the student is about equally divided between laboratory and clinical work on the one hand, and lectures and recitations on the other. The work of each session will be complete in itself, hence a graded course. Credits are given as the work proceeds.

Students are admitted to the laboratories from the beginning of the first year. The laboratory work is so arranged as to maintain the best relationship to the lectures and clinical studies.

In the clinical work, methods both of investigation and of reasoning are carefully and systematically taught. The diagnosis, prognosis and indications for treatment will receive no less attention than the methods of construction and the technique of procedures.

### **FEES**

Fees are payable in advance. For a statement of the amounts see p. 56. Students unable to meet these requirements must make satisfactory arrangements with the DEAN or ACTUARY at the beginning of the course.

This announcement applies to the session beginning October, 1909, and all requirements, fees and regulations mentioned in it apply to this school year alone. The Trustees of the University reserve the right of making changes in succeeding announcements.

These conditions cannot be modified except upon the written consent of the proper officials of the University.

For such students as intend practicing in states requiring a four-year course ample provision will be made.

Good board and rooms convenient to the College can be obtained at prices varying from three to five dollars a week, according to the accomodations; also vacant rooms without board, furnished or unfurnished, can be obtained at from six to ten dollars a month.

For further information relating to the College of Dentistry,

address

DEAN OF THE COLLEGE OF DENTISTRY, Cor. Harrison and Honore Streets, Chicago, Ill., or the REGISTRAR of the University, Urbana, Ill.

# THE SCHOOL OF PHARMACY

For Faculty of the School of Pharmacy see p. xliii.

### HISTORY

The School of Pharmacy was originally the Chicago College of Pharmacy and was incorporated under that name September 5, 1859. Prior to that time there were but three schools of pharmacy in the country and these were located in the eastern states.

While the primary object of the institution was to provide instruction in the science and art of pharmacy, yet other functions were also developed. Thus, a code of ethics was early adopted by the members, successful efforts were made to bring about better relations between pharmacists and physicians, the pioneer pharmaceutical library was established, and for eighteen years beginning with 1868 a monthly journal, *The Pharmacist*—the first of its kind in the West—was published.

In October, 1859, the first course of lectures was instituted occupying three evenings a week for a period of six months. Of the first class, but two students were graduated in 1861. The war caused a suspension of the teaching and the school was not reopened until 1870. The great fire in 1871 destroyed the equipment, but pharmacists throughout Europe and America extended help to the institution, furnishing an excellent library and outfit of apparatus, which became the nucleus of the present complete equipment. In 1872 the instruction was resumed for the second time and has since continued without interruption.

In 1880 the members and graduates of the College took an active part in the formation of the Illinois Pharmaceutical Association, which, in the following year, secured the passage of the pharmacy law.

The twenty-fifth anniversary of the founding of the College was signalized by the removal of the College to a larger building at 465 State street. Up to this time instruction had been given mainly by means of lectures, laboratory work being entirely optional. Laboratory courses in pharmacy, chemistry and vegetable

histology were now made obligatory. A laboratory devoted entirely to prescription compounding was established in 1892.

The College was formally united with the University May 1, 1896, when it became the technical School of Pharmacy of the University of Illinois. In the management of the School, the trustees and officers of the University have the assistance of an advisory board of pharmacists, elected by the registered pharmacists of the State through the Illinois Pharmaceutical Association.

### LOCATION

The School of Pharmacy is located in the building formerly occupied by the Chicago Manual Training School, at Michigan boulevard and Twelfth street. The building is a substantial brick structure, five stories in height, with a frontage of fifty feet on Michigan avenue and one hundred and seventy feet on Twelfth street. There are large windows on four sides, giving excellent light, and the rooms are heated by steam throughout.

The location is an ideal one, being near the center of the city and convenient to the various lines of transportation, yet removed from the noise and bustle of the business district.

A half block east of the building is the Illinois Central depot, and one block west are the Cottage Grove avenue, and Indiana avenue and Twelfth street surface lines, and the Twelfth street station of the South Side Elevated railroad.

On Michigan avenue, immediately south of the School, are to be found some of the best low-priced boarding and rooming places in the city. Satisfactory accommodations may be readily secured within a short distance of the School.

# EQUIPMENT

The entire east end of the building is occupied by lecture halls, of which there are four, arranged one above the other and having a seating capacity of from one hundred and twenty to three hundred persons.

The laboratories are seven in number, including a laboratory for qualitative analysis, for quantitative analysis, for special work in chemistry, for pharmacognosy, for microscopy, for manufacturing pharmacy, and for dispensing. The total capacity of these laboratories is sufficient for the accommodation of 420 students, working at one time.

All the rooms have excellent light and ventilation and abundant blackboard space. The supply of compound microscopes, analytical balances and special apparatus is exceptionally complete, and the collections of crude drugs, medicinal plants, chemicals and pharmaceutical products are varied and extensive.

The library contains about two thousand volumes, including, in additional to the usual works of reference, many rare books. Complete files of the leading pharmaceutical journals are an important feature.

### COURSES OF INSTRUCTION

The course leading to the degree of Graduate in Pharmacy appeals especially to young men and women who desire to qualify themselves to become pharmacists. The instruction is so arranged as to require the attendance of each student on three days each week and from twenty to twenty-one hours weekly during two annual sessions of thirty weeks each. This arrangement is advantageous to drug clerks who desire to spend a part of their time in drug stores while attending school, thereby adding to their practical experience and at the same time earning a part or all of their living expenses.

The subjects taught are chemistry, general, pharmaceutical and analytical; pharmacy, theoretical, manufacturing and dispensing; botany; physiology and materia medica.

To meet the demand for special training on the part of students who desire to pursue more extended courses in pharmaceutical chemistry, applied microscopy and bacteriology or to prepare themselves for positions under the Food and Drugs Act, this School offers a course leading to the degree of Pharmaceutical Chemist and comprising two annual sessions of thirty-six weeks each, with instruction on five days each week, and amounting to about thirty-three hours weekly, or a total of 2,300 hours in the entire course.

This course is partially concurrent with the shorter course and includes all the didactic instruction given in the latter. It consists largely of laboratory practice and embraces in addition to the subjects above mentioned, Organic Analysis and Proximate Assays, New Remedies, Analysis of Urine, Food and Sanitary Analysis, Bacteriology and Applied Microscopy.

The system of teaching embraces lectures, illustrations, demonstrations, recitations, written and oral examinations and individual practice and personal instruction in the various laboratories, much time being devoted to this important part of the student's work.

### ADMISSION AND GRADUATION

The regular session opens September 21, 1909. The shorter course ends April 21, 1910; the longer course closes June 6, 1910.

Applicants for admission to the course leading to the degree of Pharmaceutical Chemist must be at least seventeen years of age and must be graduates of accredited high schools or furnish evidence of a preliminary education equivalent thereto.

Applicants for admission to the course leading to the degree of Graduate in Pharmacy must be at least seventeen years of age and have completed one year of high school work or its full educational equivalent.

The entrance requirements of this school are those adopted by the American Conference of Pharmaceutical Faculties, of which this school is a member.

Students who have pursued courses of study in other colleges of pharmacy will be given credit for such portions of their work as are equivalent to the work required by this college.

In conformity with the usual custom of pharmaceutical schools, drug store experience is not made a requirement for the degree of Pharmaceutical Chemist. Students who have satisfactorily completed the course will be awarded the degree upon the recommendation of the Faculty.

For the degree of Graduate in Pharmacy this school has always required practical drug store experience. The actual time of attendance at the school, amounting to fourteen months, is credited as part of the four years of practical experience required for the degree. Candidates must have attained the age of twenty-one years and have satisfactorily finished the work leading to the degree. Students who have successfully met the scholarship requirement, but are lacking in age or in practical experience will receive a certificate and will be awarded the diploma when the requirements of age and experience are satisfied.

Persons competent to fulfill the general requirements of admission to the University may be granted credits upon other University courses for equivalent work completed at the School of Pharmacy.

# FEES AND EXPENSES.

For a statement of the fees see page 56. Fees are payable in advance. Students unable to meet this requirement must make satisfactory arrangements with the Actuary at the beginning of the course.

BOARD AND LODGING.—Good board and lodging, within a short distance of the college, can be had for from four to six dollars per week. This expense may be somewhat reduced by two or more students rooming together. The Actuary keeps a list of suitable boarding and rooming places, with their rates.

Selection of Seats.—Seats in the lecture halls and desks in the laboratories will be assigned to students by the Actuary, in the order of enrollment. To enroll, junior students will fill out the matriculation blank and forward it to the Actuary, together with credentials for admission and the matriculation fee of five dollars; senior students will make a payment on tuition account of five dollars. It is of advantage to students to matriculate early.

Opportunities for Employment.—The Actuary keeps a register of student desiring employment and of pharmacists wishing to employ students. Students desiring employment are invited to correspond with him. There are among the one thousand drug stores of Chicago and suburbs, many model pharmacies where the student may obtain valuable experience.

### STATE REGISTRATION

To become a registered pharmacist in Illinois, it is necessary to pass an examination before the State Board of Pharmacy, no

diplomas being recognized.

The diploma of this school is, however, accepted in lieu of examination for registration in about ten states and territories, and in several other states including New York and Pennsylvania, where graduation prerequisite laws are in force, this school is among the schools recognized and its diploma admits to the examination.

The amendments to the Illinois Pharmacy Law, in effect July 1, 1907, give credit, as a part of the "practical experience in compounding drugs," required by the law, for the actual time of attendance at a recognized school of pharmacy but not to exceed two years for registered pharmacist or one year for registered assistant pharmacist.

Further information may be found in the special announcement of this school, which may be obtained from the Actuary, School of Pharmacy, Michigan Avenue and Twelfth Street, Chicago, or

the REGISTRAR, University of Illinois, Urbana.

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# GENERAL DESCRIPTION OF COURSES

IN THE DEPARTMENTS AT URBANA, EXCEPT THE SUMMER SESSION

Following the description of each course of instruction will be found the requirements, if any, for admission to that particular course. The sequence indicated by these prerequisites must be followed. For instance, under Art and Design 5, Painting, there is a prerequisite of Art and Design 1, 2, and 3. All these subjects must be carried before Course 5 may be taken.

If a course not required for graduation is selected by fewer than five students, it may be withdrawn for the semester.

Graduate courses are numbered upward from 100. Other courses may be arranged by the professors in charge to meet the special requirements of advanced students.

Credit is reckoned in *semester hours*, or simply *hours*. An *hour* is either one class period a week for one semester, or the equivalent in laboratory, shop, or drawing room.

The semester, and the number of hours each semester for which the course counts, are shown after each course, thus: I, II; (2). The Roman figures indicate semesters, the Arabic, in parenthesis, indicate hours of credit for each semester.

# THE FINE ARTS\*

## ART AND DESIGN

I. FREE HAND DRAWING.—An elementary course offering, first, lectures on the principles of perspective followed by practice in drawing; and, secondly, work arranged to be of direct assistance to students in other departments of the University. All students entering the department are required to enter this class or pass an examination in the subject. *I*; (2 or 3); *II*; (3)

Mr. Kelley, Mr. Lawrence.

<sup>\*</sup>Attention is here called to courses in esthetics offered by the departments of philosophy and education, and to related courses in architecture and household science.

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2. LIGHT AND SHADE.—Study of values in charcoal, pencil or or monochrome wash as a preparation for advanced work. *I, II;* (3).

Mr. LAWRENCE.

Prerequisite: Art and Design 1.

3. Drawing from the Antique.—Study of casts from the antique, including details of the face, masks, busts, and the figure. This course aims to give students a sound knowledge of the principles of the construction of the figure and to prepare them for intelligent work from the life. I, II; (3). Mr. LAWRENCE.

Prerequisite: Art and Design 1.

- 4. STILL-LIFE PAINTING.—Still-life and flowers in water-color.

  I, II; (3). Miss Jones.

  Prerequisite: Art and Design 1, 2.
- 5. OIL PAINTING.—Figure and portrait from model in costume. I, II; (3). Miss WETMORE.

Prerequisite: Art and Design 1, 2 and 3.

6. OIL PAINTING.—Still-life and flowers. I, II; (3).

Miss Wetmore.

Prerequisite: Art and Design 1, 2.

8. Modeling.—A course in clay modeling comprising work from the antique and from life in relief and the round. Instruction is given in casting. I, II; (2).

Mr. LAWRENCE.

Prerequisite: Art and Design 1, 3.

- 8a. Modeling.—A special section of course 8 for the study of ornament by architectural students. *I*; (2). Mr. Lawrence. *Prerequisite*: Art and Design 1.
- 10. PEN AND PENCIL RENDERING.—In this course drawings are made with special reference to the requirements of the commercial reproductive processes. I, II; (1). Mr. LAWRENCE.

Prerequisite: Art and Design 1.

12. APPLIED DESIGN.—This course offers a review of the principles of design, followed by practical problems worked out in metal, leather, etc. I, II; (3).

MISS JONES.

Prerequisite: Art and Design 1.

16. Color.—The use of color in design and in interior decoration. *I*; (2). Architecture 41 will be substituted for this course during the present year.

Professor Wells.

Prerequisite: Art and Design 1, 3.

19. HISTORY OF THE FINE ARTS.—Architecture 29a and 29b will, for the present, be substituted for courses in the History of Art previously offered in this department. I, II; (2).

Professor Ricker, Professor Wells.

20. Teachers' Course.—In this course the principles of art study are applied to the special problems of the public school. I, II; (1).

Mr. Lawrence.

Prerequisite: Art and Design 1, 2, 4.

### MUSIC

- I. HISTORY OF MUSIC.—Lectures on the development of music, referring especially to the rise of polyphony and dramatic music, the origin and progress of the oratorio, the evolution of instruments and instrumental forms, and studies in the lives of composers. Assigned collateral readings. I, II; (2). Mr. Schwartz.
- 2. THEORY OF MUSIC.—Elementary Theory and Ear-training. Four Part Harmony and Analysis. I, II; (2).

Mr. Schwartz, Miss Forbes.

- 3. Advanced Harmony and Analysis.—I, II; (3) Mr. Schwartz.
- 4. Counterpoint, Canon, and Fugue.—I, II; (3).

  Professor Mills.
- 5. General Theory, Free Composition.—I, II; (2½).

  Professor Mills.

Note.—Music 5, I, may be taken with course 4, II, if desired.

- 6. Course for the Piano.—Preparatory. This course covers three years' work and is required in fulfillment of the two units prescribed for entrance to the School of Music. The work of each year counts two-thirds of a unit for entrance. It includes formation and position of fingers, hands, wrists, and arms, properties of touch, principles of technique, thorough drill in scale and arpeggio playing, and exercises in accent, rhythm, and expression. Music used:
- (a) First year. National Graded Course. Bk. I, or equivalent; Köhler Op. 151. Miss Howe, Miss Floyd, Miss Morton.
- (b) Second year. Music used—Köhler Op. 50; Leoschhorn Op. 65, Bk. 3; Duvernoy Op. 120; Kunz Canons (preparatory to Bach); Czerny Op. 636; Sonatines of Lichner, Berens, Kulau, Clementi, Diabelli, etc. Pieces of same grade.

Miss Howe, Miss Floyd, Miss Morton.

- (c) Third year.—Gorno Pedal Studies; Czerny Op. 299; Bks. 1 and 2; Wolff Octave Studies; Lawrence, Bach Preparatory Studies; Berens School of Velocity; Heller Studies, selected; easier sonatas of Haydn, Mozart, etc.
  - Miss Howe, Miss Floyd, Miss Morton.
- 7. Collegiate. First year. Studies in development of technique; Czerny Op. 299, Bk. 3; Czerny Octave Studies; Cramer Etudes; Jensen, Etudes; Bach, Little Preludes and Fugues; sonatas of Haydn and Mozart; easier sonatas of Beethoven; Songs Without Words, Mendelssohn; compositions (smaller works of Schubert, Raff, Greig, Chaminade, Moszkowski, and others). I, II; (6).

  Professor Mills, Mr. Van den Berg.
- 8. Second year. Daily technique: Czerny Op. 740; Mayer's Octave Studies; Pacher, Octave Studies; Bach, Two and Three-Voice Inventions, and French Suites; Sonatas and other compositions of Scarlatti, Beethoven, Schubert, Schumann, Mendelssohn, Weber, Raff, Rubinstein, Saint Saens, Godard, MacDowell, and others. I, II; (6). Professor MILLS, Mr. VAN DEN BERG.
- 9. Third year. Selections: Clementi, Gradus ad Parnassum; Moscheles Op. 70; Kullak, Seven-Octave Studies, Bk. 2; Bach, English Suites and Well-tempered Clavichord; Sonatas and concertos by Mendelssohn, Weber, Beethoven, Hummel, etc.; selections from works of Bach, Chopin, Schubert, Schumann, Brassin, Rubinstein, Liszt, Moszkowski, Scharwenka and other modern composers. I, II; (8). Professor Mills, Mr. Van den Berg.
- 10. Fourth year. Selections: Octave Studies; Clementi; Gradus, continued; Bach, Well-tempered Clavichord continued; Chopin, Etudes; Henselt, Etudes; Rubinstein, Etudes; Sonatas by Beethoven, and concertos and other compositions by the great masters, classic and romantic, both of the older and more modern schools. I, II; (9). Professor MILLS, Mr. VAN DEN BERG.
- 11. Course for the Voice.—Preparatory. Covers three years' work and is required in fulfillment of the two units prescribed for entrance to the School of Music.
- IIa. First year. Exercises for correct breathing and for proper placing of the voice. Randegger's Singing and Sieber's 36 eight measure Vocalises will be used.

  Mrs. Breneman, Miss McCobb.
- IIb. Second year. Breathing exercises. Tone production. Randegger's Singing. Sieber's 36 eight measure Vocalises, 25 studies from Concone's 50 lessons; simple songs for rhythm, accent, and enunciation.

  Mrs. Breneman, Miss McCobb.

11c. Third year. Breathing exercises. Tone production. Randegger's Singing. Concone's 50 lessons completed. Panofka's Op. 85. Songs from Mendelssohn and modern composers.

Mrs. Breneman, Miss McCobb.

- 12. Collegiate. First year. Tone production. Randegger's Singing continued. 25 and 40 Concone Studies. Sieber's School of Velocity. Songs from Schubert, Franz, and modern composers. I, II; (6). Mr. WADE, Mrs. BRENEMAN, Miss McCOBB.
- 13. Second year. Tone production. Sieber's School of Velocity continued. Panofka's studies. Op. 81. Songs of German, French and English composers. Simple selections from operas and oratorios. I, II; (6). Mr. WADE, Mrs. BRENEMAN, Miss McCOBE.
- 14. Third year. Tone production. Sieber's School of Velocity continued. Bordogni's studies for soprano or tenor. Sieber or Bordese for alto or bass. Selections from oratorios and from French, German, and Italian composers. *I, II;* (8).

Mr. WADE, Mrs. BRENEMAN.

- 15. Fourth year. Tone production. Lutgen's opera-vocalisen, Bk. 2. Italian, French, and English songs of standard composers. Solos and concerted works from modern and standard operas and oratorios. *I, II;* (9). Mr. Wade, Mrs. Breneman.
- 16. COURSE FOR VIOLIN.—Preparatory. Sitt: Op. 31, No. 1, Schradieck's Scale and Arpeggio Studies commenced; Meerts Elementary Etudes; Sitt: Double Stops, in part. Pieces by Wiess, Sitt, Reinecke, and Pleyel.

  Mr. Schwartz, Miss Forbes.
- 17. Collegiate. First year. Scales and Arpeggios in three Octaves; Sitt, Double stops, completed. Kreutzer, David Violin School, Vol. II; Sonatas by Handel and Schubert. Compositions by Dancla, Hauser, and Bohm. I, II; (6). Mr. Schwartz, Miss Forbes.
- 18. Second year. Scales in octaves and thirds, arpeggios on dominant and diminished seventh chords; David School completed, Fiorillo Etudes, Mozart Sonatas, Concertos by Viotti, Spohr and others; Concert pieces by Sitt, Spohr, Alard, and others. I, II; (6).

Mr. Schwartz, Miss Forbes.

19. Third year. Special technical drill. Meerts Etudes, Rode Caprices, Easier Modern Concertos and Sonatas; Concert pieces by Vieutemps, Sarasate, Foote, Cui. *I, II;* (8).

Mr. Schwartz, Miss Forbes.

20. Fourth year. Selected Concert Etudes, Sonatas by Beethoven, Schumann, and Brahms; Various Modern and Classic Concertos. I, II; (9).

Mr. Schwartz, Miss Forbes.

Note.—Ensemble and orchestral work is required of all special students who are sufficiently advanced. As so much depends on the individual student, it is impossible to define a set course of studies, and the foregoing outline must be taken only as a general guide to the work a student is required to cover.

- 21. UNIVERSITY ORCHESTRA.—Two hours rehearsal once a week throughout the year. *I*, *II*; (1). Professor MILLS.
- 22. University Choral Society.—One hour rehearsal once a week throughout the year. *I, II;* (½). Professor Mills.
- 23. EAR-TRAINING CLASSES.—For all students in the School of Music. I, II. Mrs. Sмітн.
- 24. Sight-Singing Classes.—Open to all University students. I, II. Mrs. Smith.
- 25. Public School Methods.—Students are required to complete courses in Music 1, 2, 11, and must pursue work as follows: Two classes a week in sight-singing, methods of teaching, and conducting. The methods taught are the so-called Modern, Educational, Natural, Normal, Model. A teacher's certificate is granted to all who successfully complete the course. I, II. Mrs. Smith.
- 26. Course for Band Instruments.—Students are prepared for band, orchestra, or solo work. *I, II.* Mr. Harding.
- 27. Ensemble Classes.—Open to all University students who are sufficiently advanced. Works for two pianos, string, wood, wind, and piano trios, quartets, etc., as well as the larger ensemble works are studied. *I, II*.

  Mr. Schwartz, Mr. Van den Berg.
- 16a. COURSE FOR CELLO. *Preparatory*. DeSwert: Cello Method; Klengel, Technical Studies, Litolff, Volkslieder Album, two parts; Marx Markus, Op. 40. Characteristic Pieces. Mr. Schwartz. (Students completing this work may be examined for the orchestra and ensemble classes.)
- 17a. Collegiate. First year. Dotzanert, Selected studies; Furino, Polonaise; Golterman, Nocturnes; Klengel, Concertino. Op. 7.

Mr. SCHWARTZ.

18a. Second year. Lee Studies: Op. 31, No. 1; Romberg, Op. 42, 46, 65; Golterman, Concerto in G. Mr. Schwartz.

19a. Third year. Lee Studies: Op. 31, No. 2; Golterman, Concerto in D; Klengel, Concertstuck in D. Mr. Schwartz.

The above outline will be fully supplemented with studies and pieces, and especially with orchestra and ensemble work.

# LANGUAGE AND LITERATURE

### THE CLASSICS

### **GREEK**

Courses I to 4, inclusive, are designed to meet the needs of students who cannot present Greek for entrance, and yet wish to study the language. The announcement of authors is tentative, and may be changed as the progress of the class requires:

ay be changed as the progress of the class requires:

I. Grammar and Reader.—I; (4).

Dr. Allen.

2. Grammar and Reader.—II; (4)
Prerequisite: Greek 1.

3. XENOPHON'S ANABASIS, with selections from the narrative parts of Thucydides. *I*; (4). Professor Moss.

Prerequisite: Greek 2.

4. Homer.—Odyssey.—Selections. II; (4). Professor Moss. Prerequisite: Greek 3.

5. Herodotus.—Greek prose composition. I; (4).

Professor Moss.

Dr. ALLEN.

Prerequisite: Entrance credits.

Andocides and Lysias.—Greek prose composition. II; (4).

Professor Moss.

Prerequisite: Greek 5.

7. Xenophon.—Memorabilia. I; (4). Dr. Allen. Prerequisite: Greek 6.

8. Plato.—One or more complete dialogs, and selections. II;
(4). Professor Moss.

Prerequisite: Greek 7.

9. Greek Oratory.—I; (3). Professor Moss.

Prerequisite: Greek 8.

IO. GREEK TRAGEDY.—I; (2). Professor Moss.

Prerequisite: Greek 8.

II. Homer.—The Iliad. II; (3). Professor Moss.

Prerequisite: Greek 8.

12. Thucyddes.—II; (2). Professor Moss.

13. New Testament Greek.—II; (2). Professor Moss.

Prerequisite: Greek 4.

14. Advance Greek Prose Composition.—I; (1).

Professor Moss.

Prerequisite: Greek 6.

- 15. TEACHERS' COURSE.—Greek as a secondary school course. The problems of the class-room. Texts, methods, etc. II; (1). Professor Moss.
- 16. THE PRIVATE AND PUBLIC LIFE OF THE GREEK PEOPLE.— Lectures and prescribed readings. A large collection of photographs and lantern slides is used to illustrate this course. I; (1).

Professor Moss.

- 17. Greek Poetry.—Lectures and prescribed readings from English translations. I; (2). Professor Moss.
- 18. GREEK DRAMA.—Lectures and prescribed readings from English translations. II; (2). Professor Moss.
- 19. Greek Prose.-Lectures and prescribed readings from Eng-Professor Moss. lish translations. II; (2).

Courses 16, 17, 18, and 19 are open to any student of the University above freshman year.

See also courses in Comparative Literature and Philology.

### COURSES FOR GRADUATES

Professor Moss. IOI. GREEK ORATORY. Courses 10, 12, and 14 may be taken as minors.

### LATIN

I. CICERO AND PLINY.—De Amicitia and De Senectute; selections from Pliny's letters; Roman life in Pliny's time. Students offering three units in Latin will take this course. I, II; (4).

Dr. Allen.

- 2. LIVY AND TERENCE.—Selections from Livy; the Phormio of Terence; Roman life in prose and verse. Students offering four units in Latin will take this course. I, II; (4). Professor BARTON.
- 4. Horace and Catullus.—The Odes of Horace and the Lyrics of Catullus. I; (4). Dr. Allen.

Prerequisite: Latin I or 2.

- 5. LATIN COMPOSITION.—This is an elementary course and will combine grammatical drill with practice in the simpler forms of expression. I:(2). Dr. Allen.
- 6. PLAUTUS.—Four or five plays, one for careful study, the others for more rapid reading; scenic antiquities. II; (4).

Professor Barton.

Prerequisites: Latin 1 or 2.

7. PROSE OF THE EMPIRE.—Selections from Petronius, Pliny the Elder, Apuleius, and Minucius Felix. The Roman novel. II; (2).

Dr. ALLEN

Prerequisite: Latin 1 or 2, 4, 6.

- 9. Teachers' Course.—The purpose and methods of preparatory Latin instruction; the teacher's preparation; the preparatory course; the books, photographs, and lantern slides most valuable in preparatory work. Three years of college Latin is required for this course. In exceptional cases this requirement may be waived. II; (1).

  Professor Barton.
- IO. Latin Composition.—A study of the idioms and leading principles of Latin composition with occasional imitation of assigned models. I; (3). Professor Barton.

Prerequisite: Latin 5.

- 12. Horace and Vergil in English Translations.—Open to all students except Freshmen. II; (1). Professor Barton.
- 13. Roman Life.—Both the public and private life of the Romans will be considered, but more particularly the latter. Lantern slides, pictures and stereopticon views will supplement the lectures. Knowledge of Latin is not required. II; (1). Professor Barton.
  - 14. Seneca.—Selections from his prose; two tragedies. *I*; (3). Professor Barton.

Prerequisite: Two years of college Latin.

15. Poetry of the Late Empire.—Selections from Ausonius and Claudianus. I; (2). Professor Barton.

Prerequisite: Two years of college Latin.

17. TACITUS.—GERMANIA AND AGRICOLA.—II; (3). Dr. ALLEN. Prerequisite: Latin 1 or 2.

See also courses in Comparative Literature and Philology.

# COMPARATIVE LITERATURE AND PHILOLOGY

I. Greek Literature.—From English readings. This course to be taken as Greek 17, 18 or 19.

Prerequisite: One year of University work.

- 2. LATIN LITERATURE.—From English readings. This course must be taken as Latin 12.
- 3. Development of the Drama.—(A)—Study of the Greek drama in English. I; (2). Professor Moss. (This is the same as

- Greek 18.) (B)—Study of the Scandinavian, French, and German drama in English. II; (2). Professors Dodge, Oliver, Meyer. Prerequisite: One year of University work.
- 4. General Introduction to the Science of Language.—I; (2).

  Dr. Allen.

Prerequisite: Latin 2, Greek 4, German 1, or French 1.

6. HISTORICAL LATIN GRAMMAR.—Historical treatment of inflections and sounds of Latin in its relation to the other Indo-European languages. II; (2). Dr. Allen.

Prerequisite: Philology 4.

7. HISTORY OF CLASSICAL PHILOLOGY.—II; (1). Dr. ALLEN. Prerequisite: Latin 2, Greek 4.

### GERMANIC LANGUAGES

### **GERMAN**

### FIRST-YEAR COURSES

Assistant Professor Meyer is in general charge of these courses.

- I. ELEMENTARY COURSE.—Grammar and easy reading. I; (4). Assistant Professor Meyer, Assistant Professor Brooks, Miss BLAISDELL, Dr. CHILES, Dr. WIEHR, Dr. POOR, Dr. ECKELMANN.
- 3. NARRATIVE AND DESCRIPTIVE PROSE.—Grammar and syntax, reading of easy texts, exercises in prose composition. II; (4).

  Assistant Professor Meyer, Assistant Professor Brooks, Miss Blaisdell, Dr. Chiles, Dr. Wiehr, Dr. Poor, Dr. Eckelmann. Prerequisite: German 1, or one year of high school German. Note.—One section of German 3 is offered in the first semester to students with one year's high school credit in German.

### SECOND-YEAR COURSES

Assistant Professor Brooks is in general charge of these courses.

4. Descriptive and Historical Prose.—Selections from standard prose writers. Sight reading. Prose composition. I; (4). Assistant Professor Meyer, Assistant Professor Brooks, Miss Blaisdell, Dr. Chiles, Dr. Wiehr, Dr. Poor, Dr. Eckelmann. Prerequisite: German I and 3, or two years of high school German.

Note.—One section of German 4 will be offered in the second semester.

5. Introduction to Classics.—Two or three of the classics, such as Schiller's Jungfrau von Orleans or Goethe's Hermann und Dorothea. Prose composition. II; (4).

Assistant Professor Meyer, Assistant Professor Brooks, Miss Blaisdell, Dr. Chiles, Dr. Wiehr, Dr. Poor, Dr. Eckelmann.

Prerequisite: German 4.

6. Scientific Prose.—Practice in the rapid reading of works of a general scientific character. II; (4).

Dr. CHILES, Dr. Poor.

Prerequisite: German 4.

### THIRD-YEAR COURSES

Not more than ten hours of these courses may be counted towards a major without the approval of the head of the department.

7. Heine.—Rapid translation and sight reading of selections from Heine's work; study of the Young Germany movement. *I*; (3).

Dr. Wiehr.

Prerequisite: German 5 or 6, or three years of high school

German.

10. SELECTIONS FROM GOETHE'S MINOR WORKS.—II; (3).

Assistant Professor Meyer.

Prerequisite: German 7, or 12, or 23, or the first semester of 16.

12. RECENT AND CONTEMPORARY PROSE FICTION.—Rapid reading of works by Freytag, Storm, Heyse, Keller and others. *I*; (2).

Assistant Professor Brooks.

Prerequisite: German 5 or 6, or three years of high school German.

16. Intermediate Prose Composition.—Translation of ordinary prose into German, study of idiomatic constructions, and practice in rendering at sight. The work is conducted, as far as practicable, in German. I, II; (3).

Dr. Wiehr, Dr. Eckelmann.

Prerequisite: German 5 or equivalent.

19. HISTORICAL AND ECONOMIC READING.—Selections from standard writers in the field of history and economics. Primarily for students in business courses, but open to others. *I*; (3).

Dr. Wiehr.

Prerequisite: German 5 or 6, or three years of high school German.

- 20. COMMERCIAL READING AND COMPOSITION.—Practice in reading and in writing commercial German. II; (3). Dr. Wiehr. Prerequisite: German 19.
- 23. READINGS FROM ROMANTIC PROSE WRITERS.—Eichendorff, Fouqué, Chamisso. Rapid translation and sight reading; reports on assigned reading. I; (3). Assistant Professor Meyer.

Prerequisite: German 5 or 6, or three years of high school German.

24. RECENT AND CONTEMPORARY DRAMA.—Study of dramas by Hauptmann, Wilbrandt, and others. II: (3).

Assistant Professor Brooks.

Prerequisite: German 7, or 12, or 23, or first semester of 16.

28. GERMAN LYRICS.—Study of the chief lyric poets with some attention to the historical development of the lyric. II; (2).

Assistant Professor Meyer.

Prerequisite: German 7, or 12, or 23, or the first semester of 16.

(Attention is called here to the work in Anglo-Saxon offered by the Department of English.)

### PRIMARILY FOURTH-YEAR COURSES

- 8. Schiller.—The life of Schiller and study of Wallenstein and other selections. I; (3). Associate Professor Lessing. Prerequisite: German 10, or 24, or 28, or 29.
- 9. GOETHE'S FAUST.—The Faust legend and early Faust books and plays, the genesis of Goethe's Faust, reading of both parts. I, II; (2). Professor Goebel.
- 26. GERMAN LITERATURE BEFORE THE REFORMATION.—Lectures, recitations, and reports on assigned reading. This course is intended to cover the period not included in course II. I; (3).

Associate Professor Lessing.

Prerequisite: German 10, or 24, or 28.

Note.—Courses 26 and 11 are especially recommended to all candidates for teachers' certificates and to all candidates for graduate scholarships in German.

II. GERMAN LITERATURE AFTER THE REFORMATION.—Lectures, recitations, and reports on assigned collateral reading. II; (3). Associate Professor Lessing.

Prerequisite: German 26.

25. TEACHERS' Course.-Discussion of methods, examination of text-books. Open to seniors and special students who have not less than 20 hours' credit in German. It should be accompanied by or preceded by Education 1 or its equivalent. II; (1).

Professor Goebel.

Prerequisite: First semester of German 29 or equivalent.

27. Lessing.—The life of Lessing and study of Nathan der Weise, Emilia Galotti, and other selections. II; (3).

Associate Professor Lessing.

Prerequisite: German 8 or 10, or first semester of 9 or 29.

29. ADVANCED PROSE COMPOSITION.—An advanced teachers' course aiming to give some facility in idiomatic expression in speaking and writing German. Themes on Germany and German life, pased on suitable reading, discussed in German. I, II; (2).

Dr. WIEHR.

Prerequisite: German 16.

### COURSES FOR GRADUATES

- Professor Goebel. The work is adapted to the abilities and tendencies of the students. The primary object is to give training in the methods of original research. The results of the work, when of value, may be published in the Journal of English and Germanic Philology. The subject for 1908-9 will be the philosophical Poems and Essays of Schiller.
- 103. Introduction to the Study of Germanic Philology.— Lectures; discussions of special topics. History of Germanic Philology. Methodology. Comparative Grammar of the Germanic Dialects. Metrics. II; (2). Professor Goebel.
- 104. Gothic.—An introductory study of its grammar and literature. I; (2). Professor Goebel.
- IO5. OLD HIGH GERMAN.—Grammar and interpretation of the oldest literary documents. II; (2). Professor GOEBEL.
- IO6. MIDDLE HIGH GERMAN.—Grammar and interpretation of selected texts. Open to seniors; especially recommended to candidates for teachers' certificates. *I*; (2). Professor GOEBEL.
- 107. OLD SAXON.—Grammar and interpretation of parts of the Heliand and the Genesis. II; (2). Dr. Wiehr.
- 108. OLD NORSE.—Grammar and interpretation of Icelandic and Norwegian texts. II; (2). (Omitted in 1908-9.)
- 109. GERMAN LITERATURE FROM 1786 TO 1805.—The course will include Goethe's Italian journey, the period of Goethe's and Schiller's friendship, the birth of the Romantic movement. Especial at-

tention will be given to the influence of Goethe and Schiller upon each other as shown by their correspondence and by their works during this period. II; (3).

Assistant Professor MEYER.

IIO. EARLY GERMAN DRAMA.—The mediaeval religious drama in Germany, the Shrovetide plays, the sixteenth-century drama under the influence of humanism and the Reformation, with an especial study of Hans Sachs. I, II; (2).

Assistant Professor Brooks.

- III. Hebbel.—Lectures; investigations of special topics. I; (2). Dr. Wiehr.
- II3. GERMAN LITERATURE OF THE FIFTEENTH AND SIXTEENTH CENTURIES.—Survey of the literature on the background of the general history of the time. Sebastian Brant, the Mastersingers and the Folksong, the Prose Romances, Luther, Murner, Hans Sachs, the church hymn, the chap books. I; (3).

Associate Professor Brooks. [Omitted in 1908-09.]

- 115. GERMAN LITERATURE OF THE NINETEENTH CENTURY.— Lectures. I, II; (2). Associate Professor Lessing.
  - 117. German Literature from Opitz to Klopstock.—I; (2).

    Professor Goebel.
- 118. Kleist, Grillparzer. *I, II;* (2). Lectures and discussions. Associate Professor Lessing.
  - 19. HISTORY OF THE GERMAN NOVEL.—I, II; (2).

Dr. Eckelmann.

120. WALTHER VON DER VOGELWEIDE.—Lectures and interpretation of Walther's most important Lieder and Sprüche. II; (2).

Professor GOEBEL.

# ROMANCE LANGUAGES

### UNDERGRADUATE COURSES

### FRENCH

### FIRST- AND SECOND-YEAR COURSES

I. ELEMENTARY COURSE.—Study of grammar. Drill in pronunciation. Reading of simpler modern authors, with exercises in composition and conversation. *I*, *II*; (4).

Professor Oliver, Associate Professor Carnahan, Dr. Jones, Mr. Fortier, Mr. Imbert, Mr. Owen.

Professor Oliver is in general charge of this course.

2. Modern Prose, Poetry, and Drama.—Rapid reading of representative modern authors. Advanced syntax and composition. Conversation and reports on collateral reading. Outlines of French literature. *I, II*; (4).

Professor Weeks, Professor Oliver, Associate Professor Carnahan.

Prerequisite: French 1.

### PRIMARILY THIRD-YEAR COURSES

Not more than ten hours of these courses may be counted towards a major without the approval of the head of the department.

3. Intermediate Prose Composition and Conversation.—This course is conducted entirely in French, giving facility in idiomatic expression, both in writing and in speaking. Readings, themes, dictations, and talks upon France and French life. It is especially designed for students in the courses in business training and for those intending to teach French. It is advisable to take the course in connection with higher courses in French literature. I, II; (3).

Mr. Fortier.

Prerequisite: French 2.

9. General Survey of French Literature.—This course is an introduction to more extended study of special periods. The student becomes acquainted with some of the literary masterpieces of France and with the main currents of French literature from the beginning to the present time. Lectures, readings, themes, and collateral reading. I, II; (2).

Professor Weeks.

Prerequisite: French 2.

IO. MODERN FRENCH DRAMA.—A study of the drama in France from the beginning of the nineteenth century to the present time. Rapid translation and sight reading. Lectures. Reports on collateral reading. I, II; (2). Associate Professor Carnahan.

Prerequisite: French 2.

II. VICTOR HUGO AND THE LYRIC POETS OF FRANCE.—Rise and growth of lyric poetry in France. The chief emphasis falls upon Victor Hugo, although the poets previous to Hugo and also his contemporaries receive attention. The principles of French versification are studied and illustrated particularly in examples of Victor Hugo's poems. *I*, *II*; (2).

Prerequisite: French 2.

### PRIMARILY FOURTH-YEAR COURSES

- 4. Advanced Composition and Conversation.—A continuation of French 3 with special emphasis upon individual development. The work will be done largely by means of consultations. *I, II;* (2).

  Mr. Fortier.
- 12. Modern French Novelists.—A study of the novel in France from the beginning of the nineteenth century to the present time. Rapid translation and sight reading. Hugo, de Vigny, Dumas, Balzac, Flaubert, Daudet, Zola, and living writers. Lectures. Reports on collateral reading. *I*, *II*; (2).

Associate Professor CARNAHAN.

Prerequisite: French 9, 10, or 11.

14. CLASSIC FRENCH DRAMA.—A history of French drama from the beginning of the seventeenth to the end of the eighteenth century. The emphasis will fall on Corneille, Racine, Molière in the seventeenth century; and on Marivaux, Voltaire, Beaumarchais, Le-Sage, and Sedaine in the eighteenth century. I, II; (3).

Professor OLIVER.

Prerequisite: French 9, 10, or 11.

15. Course for Teachers.—Discussion of the various methods of teaching French in this country and abroad. Actual contact with class-room problems. *I*; (1).

Professor OLIVER, with the co-operation of Professor WEEKS, Associate Professor CARNAHAN, and other members of the department.

Prerequisite: Twenty-four hours' credit in French.

### ITALIAN

I. ELEMENTARY COURSE.—Italian Grammar with composition. First semester: selections from Manzoni's I Promesi Sposi. Second semester: selections from Dante's Vita Nuova and from the Inferno. The English translation of Gaspary's Italian Literature will be used as a reference book. I, II; (3).

Dr. Jones.

### SPANISH

I. ELEMENTARY COURSE.—Grammar and easy reading. Special emphasis is laid upon the acquisition of the ability to understand spoken Spanish. *I, II;* (4). Dr. SEYMOUR, Mr. IMBERT, Mr. OWEN.

2. Conversation and Composition.—Reading of modern prose, conversation and composition. The vocabulary of everyday life is emphasized. Commercial correspondence. *I*, *II*; (2).

Dr. SEYMOUR.

Prerequisite: Spanish 1.

3. LITERARY COURSE.—Advanced reading and composition. The modern novel, drama and poetry will be studied. Readings from Cervantes, Don Quixote. Outline of Spanish literature. I, II; (3).

Dr. Seymour.

Prerequisite: Spanish 1.

4. ADVANCED CONVERSATION AND COMPOSITION.—Commercial correspondence. Reading of commercial Spanish. I, II; (2).

Dr. SEYMOUR.

Prerequisite: Spanish 2.

- 5. THE SPANISH NOVEL OF THE SIXTEENTH AND SEVENTEENTH CENTURIES.—Influence on the English novel. Lazarillo de Tormes and other picaresque novels. Cervantes. I; (2). Dr. SEYMOUR. Prerequisite: Spanish 3.
- 6. CLASSIC SPANISH DRAMA.—Lope de Vega, Tirso de Molina, Calderón and Ruíz de Alarcón. Schack's Spanish Dramatic Literature. II; (2).

  Dr. SEYMOUR.

Prerequisite: Spanish 3.

### GRADUATE COURSES IN ROMANCE LANGUAGES

- IOI. THE SIXTEENTH CENTURY IN FRANCE.—A study of the sixteenth century with special reference to Montaigne and Rabelais. II; (2).

  Mr. FORTIER.
- 102. OLD FRENCH READINGS.—Readings from the earlier monuments of medieval French literature, including the Song of Roland and the works of Christian of Troyes. Study of the medieval literary history of France. *I, II;* (2). Professor OLIVER.
- 103. OLD FRENCH PHONOLOGY AND MORPHOLOGY.—A study of the phonetic laws underlying the development of Old French from Low Latin. I, II; (2). Associate Professor CARNAHAN.
- 104. OLD SPANISH.—Reading of the older monuments of Spanish literature. Phonetics and Syntax. I, II; (2). Dr. Seymour.
- 105. ITALIAN PHILOLOGY.—The following hand-books will be used: Meyer-Lübke, *Italienische Grammatik;* Monaci, *Crestomazia*. Especial attention will be given to Italian dialects. The class will

also do some literary work, for the first semester in Boccaccio, for the second, in Petrarch. I, II; (2). Dr. Jones.

109. OLD PROVENCAL.—II; (2). Associate Professor CARNAHAN.

IIO. OLD FRENCH TEXT CRITICISM.—Studies in the construction of texts, with practice in the reading of facsimiles of unpublished manuscripts. The work for the year will consist in the main of an examination of the manuscripts of the Chevalerie Vivien. I, II; (2).

Professor WEEKS.

120. SEMINARY.—The Seminary in Romance Languages is conducted by the teachers in the department who have the closest interest in the investigations undertaken. The object of the Seminary is to offer training in the finer quality of scholarship.

### ENGLISH

### ENGLISH LANGUAGE AND LITERATURE

FOR UNDERGRADUATES

I. Introductory Course: English Literature Before the Nineteenth Century.—I; (4).

Assistant Professor Baldwin, Assistant Professor Paul, Mr. Guild, Dr. Jones, Miss Kyle, Mr. Sears, Mr. Phillips, Dr. Zeitlin, Mr. Bradsher, Mr. Warnock, Mr. Tietje, Mrs. Fawcett, Miss Perry, Mr. Jordan, Mr. Jackson.

Assistant Professor Baldwin has the general direction of this course.

2. Introductory Course: English Literature of the Nineteenth Century.—II; (4).

Associate Professor Fulton, Assistant Professor Baldwin, Assistant Professor Paul, Dr. Jones, Miss Kyle, Mr. Sears, Mr. Phillips, Dr. Zeitlin, Mr. Bradsher, Mrs. Fawcett.

Assistant Professor Baldwin has the general direction of this course.

15. Teachers' Course.—Methods of teaching English Literature and Composition in the high school. II; (2).

Professor Dodge, Professor Greenough, and Assocate Professor Fulton.

Prerequisite: Twenty hours of English and Rhetoric.

16. AMERICAN LITERATURE.—I, II; (3).

Assistant Professor PAUL, Mr. SEARS.

Prerequisite: English 1 and 2.

23. ELEMENTARY COURSE IN SHAKSPERE.—Introductory to English-5. II: (3).

Assistant Professor Paul, Assistant Professor Sherman, Mr.

Prerequisite: English 1 and 2.

28. English Literature 1066-1557.—I: (3). Dr. Jones. Prerequisite: Eight hours of English Literature. Students who

take English 28 are recommended to take it with History 8 (Culture in the Middle Ages).

29. ENGLISH LITERATURE 1557-1688.—Exclusive of the drama. I; (3). Assistant Professor BALDWIN.

Prerequisite: Eight hours of English Literature.

31. English Literature 1688-1798.—II; (3).

Assistant Professor PAUL.

Prerequisite: Eight hours of English Literature.

### FOR UNDERGRADUATES AND GRADUATES

3. THE POETRY OF MILTON.—II; (3).

Assistant Professor BALDWIN.

Prerequisite: Fourteen hours of English Literature. Students are advised to take English 29 before taking English 3.

4. (Formerly Rhetoric 19.) THE HISTORY AND PRINCIPLES OF ENGLISH VERSIFICATION.—Theory of English metre and rhythm; history of the development of the forms of English verse. I; (2).

Prerequisite: Ten hours of Rhetoric and eleven hours of English Literature.

5. SHAKSPERE AND HIS PREDECESSORS.—I, II; (3).

Professor Donge.

Prerequisite: Fourteen hours of English Literature, which must include English 23. (The second semester may be taken without the first.)

6. (Formerly Rhetoric 18.) HISTORY OF CRITICISM.—A study of the main lines of development in the history of criticism, with special attention to Greek and English critics. II; (4).

Associate Professor Fulton.

Prerequisite: English II.

8. OLD ENGLISH (ANGLO-SAXON).—Grammar, prose, short poems, parts of Beowulf. I, II; (3). Professor Dodge.

Prerequisite: Twelve hours of English Literature, or eight hours of English and eight of German.

10. Anglo-Saxon Poetry.—I, II; (3). Professor Dodge.

Prerequisite: English 8.

II. (Formerly Rhetoric 17). The Principles of Criticism.—
A study of the principles underlying the art of criticism. I; (3).

Associate Professor Fulton.

Prerequisite: Fourteen hours of English Literature. Students who take English II are advised to take either before or with it Philosophy 8 (Esthetics).

17. HISTORY OF THE ENGLISH LANGUAGE.—I, II; (2).

Associate Professor Fulton.

Prerequisite: Twelve hours of English Literature.

19. LITERARY STUDY OF THE BIBLE.—In the first semester the Psalms and the Prophets (lyric poetry and oratory) are studied; in the second semester, Proverbs, Ecclesiastes, and Job (literature of wisdom). *I, II;* (3). Assistant Professor Baldwin.

Prerequisite: Eight hours of English Literature. (The second

semester may be taken without the first.)

24. Browning.—I; (3). Miss Kyle.

Prerequisite: Fourteen hours of English Literature.

24a. Browning and Tennyson.—II; (3). Miss Kyle. Prerequisite: Seventeen hours of English Literature, which must include English 24.

33. English Poetry of the Nineteenth Century.—I, II; (3).
Miss Kyle, Dr. Zeitlin.

Prerequisite: Fourteen hours of English Literature. Students who intend to take English 33 are advised to take either with or before it History 7 (The Revolutionary and Napoleonic Era) and History 20 (Europe in the Nineteenth Century).

35. THE DRAMA.—1644-1900. I, II; (3).

Assistant Professor SHERMAN, Mr. GUILD.

Prerequisite: Fourteen hours of English Literature, which must include English 23.

### FOR GRADUATES

- IOI. RESEARCH IN SPECIAL PERIODS.—Competent graduate students are encouraged to seek the advice and assistance of the Department of English and to submit to the Department plans for study in the language or literature of the periods mentioned below.
  - A. Anglo-Saxon Language and Literature. Professor Dodge.
  - B. Thirteenth and Fourteenth Centuries. Dr. Jones.
  - C. Sixteenth Century.

Professor Dodge, Assistant Professor Sherman.

D. Seventeenth Century. Assistant Professor Baldwin.

E. Eighteenth Century. Professor Greenough.

F. Nineteenth Century. Associate Professor Fulton.

Prerequisite: The consent of the Department of English. 107. THE HISTORY OF ENGLISH PROSE FICTION.—I, II; (3).

Professor Greenough.

Prerequisite: Eighteen hours of English Literature and a reading knowledge of French.

125. CHAUCER, CRITICAL READING.—I, II; (3). Dr. JONES. Prerequisite: English 8 and twelve hours of English Literature. 126. ENGLISH BALLADS AND METRICAL ROMANCES.—I, II; (3). Dr. JONES.

Prerequisite: Fourteen hours of English Literature. Students who elect English 126 are advised to take either with or before it English 125 (Chaucer) and Romance Languages 102 (Old French).

136. The Transition from the Seventeenth to the Eighteenth Century in English Literature.—I, II; (3).

Professor GREENOUGH.

Prerequisite: Eighteen hours of English Literature. The attention of students who intend to take English 136 is called to History 4 (English Constitutional History), French 114 (Classic French Drama), Philosophy 4 (Modern Philosophy), Philosophy 15 (The Philosophic Thought of England in the Eighteenth Century). With the consent of the instructor these courses may be counted toward the fulfillment of the prerequisite.

137. NINETEENTH-CENTURY PROSE WRITERS (Advanced Course).

—I, II; (3). Assistant Professor Sherman.

Prerequisite: Eighteen hours of English Literature. The attention of students who intend to take English 137 is called to Philosophy 4 (Modern Philosophy), Philosophy 10 (Thought Movements of the Nineteenth Century) and History 20 (Europe in the Nineteenth Century). With the consent of the instructor these courses may be counted toward the fulfillment of the prerequisite.

138. The Romantic Movement in England.—I, II; (3).

Assistant Professor SHERMAN.

Prerequisite: Eighteen hours of English Literature and a reading knowledge of either French or German. The attention of students who intend to take English 138 is called to History 7 (The Revolutionary and Napoleonic Era). With the consent of the instructor this course may be counted toward the fulfillment of the prerequisite.

### RHETORIC

### FOR UNDERGRADUATES

I. RHETORIC AND THEMES.—Required for students in the Colleges of Literature and Arts, Agriculture, Science, and Engineer-

ing. I, II; (3).

Professor Greenough, Associate Professor Fulton, Assistant Professor Baldwin, Assistant Professor Sherman, Mr. Scott, Mr. Guild, Dr. Jones, Dr. Zeitlin, Mr. Sears, Mr. Phillips, Mr. Bradsher, Mr. Warnock, Mr. Tietje, Mrs. Fawcett, Miss Harbarger, Miss Perry, Mr. Jackson, Mr. Jordan, Miss Collins, Mr. Daehler, and others.

Professor Greenough has the general direction of this course.

3. Daily Themes.—Five short themes a week with a four-page theme every fortnight. Only one semester of this work may be taken. *I or II;* (4). Miss Kyle, Mr. Tietje.

Prerequisite: Rhetoric I.

20. ENGLISH COMPOSITION.—Two four-page themes and one eight-page theme a week. The purpose of this course is to give students the opportunity to organize and write long themes. The second semester may be taken without the first. I, II; (3).

Professor CLARK.

# Prerequisite: Rhetoric 1.

II. COMPOSITION AND LITERATURE.—For students in the College of Engineering who elect English as their language. The course will be about equally divided between composition and English prose literature. II; (4).

Professor CLARK.

10. Business Writing.—Business correspondence, with practice in incidental writing, summaries, etc. II; (2).

Professor CLARK.

# Prerequisite: Rhetoric 1.

16. Exposition.—Study of the principles underlying the expository method; analysis of masterpieces of exposition, both literary and scientific; themes. II; (3). Mr. Scott.

Prerequisite: Rhetoric 1.

12. Newspaper Writing.—Lectures, discussions, assignments in news writing, interviewing, and reporting, study of news form, news value; typography, proof-reading, etc. The work is made as practical as possible. *I*, *II*; (2). Mr. Scott and lecturers.

Prerequisite: Rhetoric 1, and either Rhetoric 3 or one semester

of Rhetoric 20.

15. Advanced Newspaper Writing.—In the first semester this course presents larger problems in reporting than those in course 12, including the collecting and arranging of scattered news facts for purposes of generalization. In the second semester an effort is made to cultivate the student's ability to apply the principles of history, economics, political science, etc., to public events. Copy reading, head writing, editing, and editorial writing are studied and practiced. Special effort is made to cultivate a good sound English style. I, II; (3).

Mr. Scott and lecturers.

Prerequisite: Rhetoric 12, or some practical experience in re-

porting.

FOR UNDERGRADUATES AND GRADUATES

6. English Composition (Advanced Course).—I; (3).

Professor CLARK.

Prerequisite: Fourteen hours of Rhetoric or twenty hours of Rhetoric and English.

### PUBLIC SPEAKING\*

2. ARGUMENTATION.—Text-book and assigned work. Baker and Huntington's Principles of Argumentation is used. II; (3).

Mr. HALLIDAY.

Prerequisite: Rhetoric I and Philosophy I.

4. THE ART OF DEBATE.—Brief writing and the extemporaneous presentation of arguments in formal debate. I, II; (2).

Mr. HALLIDAY.

Prerequisite: Rhetoric 1 and 7. It is desirable that Rhetoric 2 should also precede this course.

5. Extempore Speaking.—Platform discussion of current events; practice in after-dinner speaking, impromptu debate, etc. *I, II;* (1). Mr. HALLIDAY.

Prerequisite: Rhetoric 1 and 7.

- 5a. Extempore Speaking.—For law students only. This course follows the general lines of Rhetoric 5, but has special reference to the sort of public speaking for which lawyers are called upon. I; (2).

  Mr. Halliday.
- 7. Public Speaking.—An introductory course in public speaking—vocal, breathing, action, and declamation exercises supplemented by text-book and individual instruction. May be begun either semester. I, II; (2).

  Miss Bradford.

<sup>\*</sup>The courses in this group are numbered as Rhetoric 4, etc.

8. Interpretive Reading.—The vocal interpretation of literature. I; (3). Mr. Guild.

Prerequisite: Rhetoric 7.

- 9. Dramatic Reading.—The study and presentation of a classic play or of special scenes. Open only to those who are approved by the instructor. II; (1 to 4). Mr. Guild.
- 13. Inter-Collegiate Debating.—Students who wish to take part in any of the inter-collegiate debates should register in this course if they wish credit for their work. *I*, *II*; (1, 2).

Mr. HALLIDAY

14. Oratorical Composition and Delivery.—The leading English and American orations are read and criticized. Students write and deliver two orations. Lectures and supplementary reading. II;
(3).

Mr. Halliday.

Prerequisite: Rhetoric I and 7.

# THE SOCIAL SCIENCES

### HISTORY

COURSES OPEN TO FRESHMEN

(Full credit cannot be given for these courses if taken by seniors.)

I. CONTINENTAL EUROPEAN HISTORY.—This course serves as an introduction to the general history of Europe from the fourth century to the present time. The work of the two semesters should be taken together; the second semester cannot be taken without the first. *I*, *II*; (3).

Professor Ford, Assistant Professor Larson, Dr. Paetow.

11. HISTORY OF ENGLAND TO 1589.—The course may advantageously be combined with English economic history. (Economics 7), or Continental European history (History 1). II; (3).

Assistant Professor Larson.

### UNDERGRADUATE COURSES NOT OPEN TO FRESHMEN

3. HISTORY OF THE UNITED STATES.—The first semester will cover the colonial era, the Revolution, and the genesis of the federal constitution. The second semester will cover the history of the United States under the constitution. The work of either semester may be taken separately. I, II; (3).

Professor Greene.

Prerequisite: One year of college work.

- 5. HISTORY OF GREECE.—I, II; (3). [Not given in 1908-09.]
- 6. HISTORY OF ROME.—I, II; (3). [Not given in 1908-09.]
- 7. The Revolutionary and Napoleonic Era.—This course will include a survey of French conditions in the eighteenth century before 1774, an account of the events between 1774 and 1789 which precipitated the revolution in France, the reform work of the early revolution, and the Napoleonic regime in France and Europe. *I*; (3).

  Professor Ford.

Prerequisite: History 1.

 THE ERA OF THE RENAISSANCE.—This course includes studies both in the Italian Renaissance and in Northern humanism. II; (3).
 Dr. PAETOW.

# Prerequisite: History 1.

17. The History of Illinois.—The subject is treated not from a purely local point of view, but as illustrating the development of a typical commonwealth in the Middle West. *I*; (2).

Assistant Professor ALVORD.

18. The Teaching of History.—This course is intended to prepare students for the practical problems of historical teaching in secondary schools. Open to seniors only. II, (1).

Assistant Professor Larson, assisted by other members of the department.

Prerequisite: History 1 and 3 or their equivalents.

20. Europe in the Nineteenth Century.—An account of the national movements of the nineteenth century and of those European conditions which form the basis of modern world politics. II; (3).

Professor Ford.

# Prerequisite: History 1.

23. HISTORY OF MODERN ENGLAND.—This course is a continuation of History 11, and follows the same general plan; but the colonial and imperial phases of English history are emphasized. I, (3).

Assistant Professor Larson.

Prerequisite: History 1 or 11.

# COURSES FOR GRADUATES AND QUALIFIED UNDERGRADUATES.

(The ability to use French and German is desirable in all of these courses and is essential in some of them.)

4. THE CONSTITUTIONAL HISTORY OF ENGLAND.—This course is recommended for students who wish to specialize in English history, political science, or law. During the first semester, the emphasis

is placed on institutional origins; in the second semester particular attention is given to modern constitutional practice. *I, II;* (3).

Assistant Professor Larson.

Prerequisite: Either History 1, or History 11 and 23.

8. Medieval Culture.—The main object of this course is to trace the intellectual development of medieval civilization. The following topics are considered: The strife over investitures; the Crusades; the rise of universities; the vernacular literatures; the development of Gothic architecture; Scholasticism. The lives of such men as Abelard, John of Salisbury, Roger Bacon, and Thomas Aquinas will be studied to illustrate the culmination of medieval culture. Lectures, readings, and reports. *I*; (3).

Dr. PAETOW.

Prerequisite: History 1.

- 13. AMERICAN HISTORY, 1760-1789.—The colonies in 1760, the American Revolution, and the formation of the state and federal constitutions. I; (3). Professor Greene. [Not given in 1908-09.]

  Prerequisite: History 3.
- 14. The Making of the Federal Constitution.—An intensive study, based upon original material of the events from 1783 to 1789 which resulted in the framing and ratification of the federal constitution. *I*; (3). Professor Greene.

Prerequisite: History 3.

15. The Civil War and the Reconstruction of the Southern States.—II; (3). Professor Greene.

Prerequisite: History 3.

- 19. The Formation and Development of Brandenburg-Prussia from 1640 to 1786.—A somewhat detailed study of the work of the Great Elector, Frederick William I., and Frederick the Great. Open to graduates and to qualified juniors and seniors on the approval of the instructor. *I, II;* (2 or more at the option of the instructor).

  Professor Ford.
- 21. Selected Topics in the History of the Nineteenth Century.—Open to graduates and to qualified juniors and seniors on approval of the instructor. *I, II;* (2 or more at the option of the instructor).

  Professor Ford. [Not given in 1908-09.]
- 22. American History, 1820-1860.—Selected topics in social and political history. II; (3).

Professor Greene. [Not given in 1908-09.]

Prerequisite: History 3.

24. French Institutional History During the Seventeenth and Eighteenth Centuries.—I; (3). Assistant Professor Alvord.

Prerequisite: Twelve hours in history and a reading knowledge of French.

25. THE HISTORY OF THE FRENCH COLONIES IN AMERICA.—II;
(3). Assistant Professor Alvord.

Prerequisite: Twelve hours in history and a reading knowledge of French.

#### COURSES FOR GRADUATES

(By special permission of the instructor these courses may also be taken by seniors of high standing who have specialized in history.)

IOI. SEMINARY IN AMERICAN HISTORY.—I, II. (Two or more).
Professor Greene and Assistant Professor ALVORD.

102. STUDIES IN ENGLISH HISTORY.—During the first semester one of the medieval chronicles will be translated and studied; the second semester will be devoted to the study of topics in the political history of England in the eighteenth century. *I*, *II*; (3).

Assistant Professor LARSON.

103. HISTORICAL BIBLIOGRAPHY AND CRITICISM.—This course is designed to familiarize the student with historical bibliography and method. Required of all candidates for an advanced degree in history who do not present evidence of similar training elsewhere. I, II; (2).

Professor Ford, assisted by other members of the department.

104. SEMINARY IN MODERN EUROPEAN HISTORY.—The subject selected for 1908-09 is the influence of the French Revolution in Germany. I, II; (2 or more at the option of the student and the instructor).

Professor FORD.

105. The History of Western Expansion, 1763-1818.—The main object of the course will be the study of various problems in the interpretation of western history. I, II; (2 or more at the option of the student and the instructor)

Assistant Professor ALVORD.

#### **ECONOMICS**

The department of economics includes general economics, economic history, finance, commerce, industry, and accountancy.

Courses 7, 22 and 26, English Economic History, the Economic History of the United States and Economic Resources, or Commer-

cial Geography, are open to freshmen without previous requirement. Courses numbered 101 and above are open to graduate students only.

I. PRINCIPLES OF ECONOMICS.—I; (5).

Professor Kinley, Assistant Professor Duncan, Dr. Towles.
Mr. Moore.

Prerequisite: At least thirty hours of University work.

2. Principles of Economics.—This course is offered to junior and senior students in the colleges of engineering and agriculture. Emphasis is laid on practical economics.  $I_j$  (2).

Professor Robinson, Dr. Thompson. II; (2). Professor

ROBINSON.

3. Money and Banking .- II; (3).

Assistant Professor Weston, Assistant Professor Duncan, Dr. Towles.

Prerequisite: Economics 1.

4. Financial History of the United States.—A study of colonial and federal finance, including currency, banking, tariff and fiscal questions and a brief survey of the development of the financial systems of some of the leading states, as New York and Illinois. I; (3). Assistant Professor Weston.

Prerequisite: Economics 3 and 5.

- 5. Public Finance. II; (3). Assistant Professor Weston. Prerequisite: Economics 3 and Political Science 1. [Not given in 1908-09.]
- 7. ENGLISH ECONOMIC HISTORY.—Special attention is directed to the evolution of modern industrial institutions. *I*; (2).

Professor Dewsnup, Dr. Towles, Mr. Moore.

8. The Money Market.—An advanced course dealing with international payments and the determination of rates of foreign exchange, functions of bill broker and banker, causes of fluctuations in rates of discount, the concentration of financial dealings at such centers as New York and London, monetary panics and crises, and the financial aspects of dealings on the stock and produce exchanges. II; (2).

Assistant Professor Weston.

Prerequisite: Economics 9.

9. Banking.—A course in practical banking with special reference to the United States. *I*; (2). Assistant Professor Weston. *Prerequisite*: Economics 3.

10. CORPORATION MANAGEMENT AND FINANCE.—I; (3).

Professor Robinson.

Prerequisite: Economics 1 and 3, or (for engineers) 2 and 16A.

II. INDUSTRIAL CONSOLIDATIONS.—The development of industrial consolidations; the growth of monopoly; monopoly prices and methods; the ability of trusts to affect prices, wages, interest, and profits; and the proposed plans for controlling trusts. II; (3).

Professor ROBINSON.

Prerequisite: Economics 10.

12. The LABOR PROBLEM.—The labor movement and its social significance. The progress of the laboring classes, the legal relations of employers and employed, wages, strikes, arbitration, labor organizations, and similar topics, are studied. II; (3). Dr. Towles.

Prerequisite: Economics 1 and 3.

16. Economic Problems.—Section A, consisting wholly of engineers, takes up the study of railway problems, taxation of corporations, and the labor question. Section C, composed of students from the College of Agriculture, takes up special topics relating to agriculture. II; (2). Professor Dewsnup, Dr. Thompson.

Prerequisite: Economics 1 or 2.

- ECONOMIC SEMINARY.—I, II; (4-8 for the year).
   Professor Robinson and other members of the department.
- 21. SOCIALISM AND SOCIAL REFORM.—II; (3). Dr. Towles. Prerequisite: Economics 12.
- 22. THE ECONOMIC HISTORY OF THE UNITED STATES.—This course is an inquiry into the trend of our development and into the physical, economic, and political forces which have directed and controlled it. Attention is given to the history of some specific great industries, such as the iron and steel industry, cotton manufacture, shipping, etc. No juniors or seniors are admitted to this course. II; (2).

  Dr. Thompson, Mr. Moore.
  - 24. Statistics.—See Mathematics 29, 30 and 31.
- 26. ECONOMIC RESOURCES (COMMERCIAL GEOGRAPHY).—A brief study of the various natural and artificial conditions which affect commercial and industrial development, followed by a somewhat detailed consideration of the more important products and industries of various countries; with special reference to the present industrial and commercial conditions of the United States. *I*; (3), II; (3).

- 27. HISTORY OF COMMERCE.—A general survey of ancient, medieval and modern commerce, with special stress on the commercial development of recent times. *I*; (3). Dr. LITMAN.

  Prerequisite: Economics 7, 20 and six hours of history.
- 28. Domestic Commerce and Commercial Politics.—The course deals with the principles and methods of buying and selling in internal trade, discussing the various forms of wholesale and retail trade organizations; department, mail-order and co-operative stores; markets, fairs, auctions; stock and produce exchanges, etc. I; (3).

  Dr. LITMAN.

Prerequisite: Economics 1, 3, 7, 22 and 26.

29. Foreign Commerce and Commercial Politics.—Problems arising in connection with international trade relations, and various attempts to solve them; changes in theories and policies; economic systems (mercantile, free trade, and protective); classes of customs tariffs; commercial treaties; institutions for furthering export trade (commercial museums and bureaus of information, sample houses, consular reports, etc.) II; (3).

Prerequisite: Economics 28.

30. Customs Tariff and Regulations of the United States.—A study of the history of tariff legislation in the United States, followed by a discussion of the present tariff system; the organization and work of the custom house; entry of goods; bonded warehouses, etc. II; (3).

Dr. LITMAN.

Prerequisite: Economics 1 and 3. [Not given in 1908-09.]

31. HISTORY OF THE COMMERCIAL RELATIONS OF THE UNITED STATES.—This comprises a study of the general trade relations of the United States with foreign countries as well as a more detailed consideration of our commercial relations with certain countries. It is desirable, though not required, that this course be taken in connection with 35. I, II; (2).

Dr. LITMAN.

Prerequisite: Economics 1, 7, 26, and six hours of modern history. [Not given in 1908-09.]

32. Domestic and Foreign Markets of the United States.—
One hour a week is devoted to a study of the distribution and domestic marketing of American products, especially farm products, while the second hour is given to a study of foreign markets for American exports. It is desirable, though not required, that this course be taken with 35. I, II; (2).

Dr. LITMAN.

Prerequisite: Courses 27 and 30, or 28 and 29, or an equivalent amount of economics. [Not given in 1908-09.]

33. Economics of Insurance.—The historical development of insurance, and an extended discussion of its economic aspects. *I*; (2).

Professor Robinson.

Prerequisite: Economics 10. [Not given in 1908-09.]

35. Consular and Diplomatic Service.—The basis of this course is the consular and diplomatic relations of the United States, though a careful study is also made of the duties and functions of consuls in general, as well as of the foreign service of the leading commercial nations. II; (2).

Dr. LITMAN.

Prerequisite: Economics 28, 29, 30. [Not given in 1908-09.]

36. Organization of Ocean Commerce.—The course considers the most important trade routes of the world; charter and line traffic; passenger and freight rates; governmental supervision and control of shipping; modern harbor facilities, etc. II; (2).

Dr. LITMAN.

Prerequisite: Economics 28, 29, 30.

41. RAILWAY HISTORY AND ORGANIZATION.—A survey of the railways of the United States, with a careful study of railway organization. *I*; (3). Professor Dewsnup.

Prerequisite: Economics 1; for engineers, 2.

42. RAILWAY ADMINISTRATION.—This course deals in detail with (1) railway finance and taxation, (2) theory of rates, and (3) state administration in the United States and abroad. II; (3).

Professor Dewsnup.

Prerequisite: Economics 1 and 41; for engineers, 2, 41.

43. Traffic Administration.—The work of the freight and passenger traffic departments is treated with reference to general problems, classification of business, stimulation of business by advertising and other means, necessary forms and reports, special traffic claims, classifications and traffic, inter-relation of railways in traffic matters. *I*; (3).

Professor Dewsnup.

Prerequisite: Economics 1; for engineers 2. [Not given in 1908-09.]

- 44. RAILWAY TRANSPORTATION.—II; (2). Professor DEWSNUP.

  Prerequisite: Economics 1; for engineers, 2. [Not given in 1908-09.]
  - 45. RAILWAY PRACTICE.—I; (22). Professor DEWSNUP. Prerequisite: Economics 42.
- 46. RAILWAY LITERATURE.—The object of the course is to familiarize the student with the current railway literature bearing

upon his particular interests. Each student is required to keep himself supplied with the current number of one of the railway weeklies. This course may be taken for one or two semesters. Students in Railway Administration will generally enter it in the first semester of the Senior year. I, II; (1). Professor DEWSNUP. Prerequisite: Six hours in Railway Administration.

47. Foreign Railway Systems.—A general study of some one foreign railway system, varying from time to time-1908-9, the English Railway System. II; (2). Professor Dewsnup.

Prerequisite: Economics 44 and 45.

48. THE ECONOMIC PROBLEM OF THE INTERURBAN RAILROAD.-The financing, management and economic and social effects of the electric interurban railroad and its relation to the steam road. II; Professor Dewsnup. (2).

Prerequisite: Economics 42. [Not given in 1908-9.]

49. ECONOMIC THEORY OF RAILWAY LOCATION.—The consideration of railway location from the standpoint of economics, supplementing the engineering theory. I; (1). Professor Dewsnup. Prerequisite: Economics 42. [Not given in 1908-9.]

#### COURSES FOR GRADUATES

- IOI. ECONOMIC THEORY.—An advanced course in the theory of Professor KINLEY. distribution. I, II; (2).
- 103. SEMINARY IN RAILWAY ADMINISTRATION.—For students specializing in Railway Administration. I, II; (2).

Professor DEWSNUP.

- 104. SEMINARY IN COMMERCE.—For students specializing in Commerce. I, II; (2). Dr. LITMAN.
  - 105. Public Finance.—I, II; (2).

Assistant Professor Weston.

- 107. THE CORPORATION IN ECONOMIC EVOLUTION.—I, II; (1). Professor Robinson.
- 118. Seminary.—For the year 1908-1909 the subject of study and investigation is taxation in American states, with special refcrence to Illinois.

120. HISTORY OF ECONOMIC THOUGHT.—Emphasis is placed upon the relation of economics to philosophical and political theories as well as to political and industrial conditions. I, II; (2).

Dr. THOMPSON.

#### ACCOUNTANCY

I. Principles of Accounting.—This course is the foundation of all work in accounting. The student is made familiar with the keeping of accounts of various kinds of businesses, mercantile, industrial, and financial; the accounting for various types of business organizations, individuals, partners and corporations; the changing from partnership to corporation, the handling of journal entries, the closing of accounts, the changing from double to single entry; the methods of preparing the industrial and commercial statistics of a plant, etc. I, II; (2). This course, if elected, must be taken through the year in order to secure any credit.

Assistant Professor Duncan.

Prerequisite: Thirty hours of University credit, registration in Economics 1, and a knowledge of the principles of bookkeeping.

2. Cost Accounting.—The scope of cost accounting, the relationship of the various elements of cost to each other, and the methods of recording the same for various types of industries. The designing and installing of cost systems for typical industries. The course may be taken simultaneously with course I. I; (2).

Assistant Professor Duncan.

Prerequisite: Accountancy 1.

3. Industrial Accounting.—A study of the various types of industries, the methods of installing accounting systems to suit their technical peculiarities, for the purpose of revealing efficiency in management; the handling of departmental accounts. This course may be taken simultaneously with course I. II; (2).

Assistant Professor Dungan.

Prerequisite: Accountancy 1.

4. Advanced Accounting.—Theory: This part of the course includes the consideration of the various types of accounting, the handling of capital, revenue, dissolution of partnership, realization, liquidation, insolvency, good-will, treatment of bad debts, suspense, maintenance, depreciation, reserve, and sinking funds, contingent funds, secret reserves and the like.

Practical Accounting: The second part of the course includes the working out of difficult accounting problems, applying the principles covered in the theoretical part of the course, the analysis of reports of railway, financial and industrial corporations. The course, if elected, must be taken through the year. I, II; (3).

Assistant Professor Duncan.

Prerequisite: Accountancy I, and registration in either the twoyear or the four-year course in accountancy or railway traffic and accounting. The course it not open to students in other courses except by permission of the instructor, the director of the school and the dean of the college. [Not given in 1908-9.]

5. AUDITING.—Discussion of the duties and responsibilities of an auditor, the kinds of audits that can be made, the value of each, the auditor's report, what it should contain, his certificate, its value, the preparation of audit reports. For students of accountancy only.

I; (2).

Assistant Professor Duncan.

Prerequisite: Accountancy 4 or 1, and registration in Accountancy 4. [Not given in 1908-9.]

6. Trustee and Railroad Accounting.—Discussion of the rights and duties of executors and trustees, proper accounting methods for trusteeships, railroad accounting, the handling of railroad revenue accounts, including freight, passenger, express and other earnings from the road and allied companies, the treatment of operating expenses, fixed charges, the work of the Interstate Commerce Commission in standardizing railway accounting methods. II; (2). For students of accountancy and railway traffic and accounting only.

Assistant Professor Duncan.

Prerequisite: Accountancy 4, or 1 and registration in 4. [Not given in 1908-9.]

TO. Shop Management and Cost Keeping.—A study is made of the various types of industries, how they influence plant layouts, the laborers needed, the material used, methods of handling. A discussion is made of the best types of records suitable for each type of industry in order to approximate costs of manufacture and to determine and compare the efficiencies of departments, of individual workers, of methods of productions and the like. The course is presented from the standpoint of the engineer and shop manager. II; (2).

Assistant Professor Duncan.

Prerequisite: Open only to Engineering students who have had Economics 2. [Not given in 1908-09.]

# LAW

B. Commercial Law.—The work covers the chief principles underlying the law of contracts in general, negotiable instruments, agency, partnerships, business corporations, sales of personal property, bailments and carriers, guaranty and suretyship, insurance

and real estate. Spencer's *Elements of Commercial Law*. This course is not a technical law course, is intended for students of commerce, and may not be counted toward the law degree. *II*; (3).

Professor Hughes.

Prerequisite: At least 60 hours of University credit, including Economics 1 or 2.

## POLITICAL SCIENCE

I. AMERICAN FEDERAL GOVERNMENT.—A course introductory to the study of national government in the United States, particular emphasis being given to historical development, organization, powers, limitations and practical working. *I*; (3).

Professor GARNER, Mr. POWELL.

Prerequisite: At least 30 hours of University work,

- 2. European Governments.—A comparative study of the national political systems of Great Britain, France, Germany, Italy, and Switzerland. Open to seniors, and graduate students who have had Course 1, or its equivalent. *I*; (3). Professor Garner.
- 3. AMERICAN STATE GOVERNMENT.—A study of the evolution of the American state constitution from the colonial charter; powers, rights and obligations of states under the Federal Constitution; methods of formation and of admission to the Union; comparative study of the organization of commonwealth government; constitutional resemblances and diversities. *II*; (3). Professor Garner.

Prerequisite: At least 30 hours of University work.

4. Municipal Government.—A study of the organization and administration of city government in the United States and in Europe. Lectures, assigned readings and reports. II; (2).

Professor GARNER, Mr. POWELL.

Prerequisite: Course I or 2 or the equivalent of either.

- 5. The Federal Constitution.—A study of the origin, nature, and development of the federal constitution. Open only to students who have had Course 1 or its equivalent. I; (3). Mr. Powell.
- 6. International Law.—The development of the law of nations; its nature, source, and present status; the equality of states; the doctrine of intervention; the laws of war and peace; the rights and duties of neutrals; the arbitration movement. Open to juniors and seniors. Others who are qualified may be admitted by special permission. II; (3).

  Professor Garner.

- 7. AMERICAN DIPLOMACY.—The genesis and present organization of the Department of State; the diplomatic service; the treaty making power; the foreign policy of the United States; the principal diplomatic controversies between the United States and foreign powers; the elevation of the United States to the position of a world power. Open to juniors, seniors, and graduate students only. I; (2).

  Professor Garner.
- 8. The Law of Taxation.—Constitutional limitations on the taxing power. Legal rules governing the assessment and collection of taxes. Study of leading cases. Open to students who have had course 5; others who are qualified may be admitted by special permission. Goodnow's Cases on Taxation. I; (2). Mr. Powell.
- 9. ELEMENTS OF JURISPRUDENCE.—A study of elementary legal conceptions. The origin, growth, nature and kinds of law. II; (3).

  Mr. POWELL.
- 10. Elements of Administrative Law.—The nature of administrative law and its relation to constitutional law; constitutional and legal rules governing administrative authorities; the law of officers; administrative jurisdiction; study of leading cases from Goodnow's Cases on Administrative Law, Part 1. Open only to advanced students. II; (3).

  Mr. Powell.
  - 101. SEMINAR IN POLITICAL SCIENCE.—I, II; arrange time.

Course 101 is open only to graduate students. Graduate credit will be allowed for Courses 2, 4, 5, 6, 7, 8, and 10. By special arrangement graduate credit may be allowed for Courses 3 and 9.

## SOCIOLOGY

Students who do their major work in this department may count as part of the necessary twenty-four hours any of the following courses elsewhere described: Economics 12 (The Labor Problem); Economics 21 (Socialism and Social Reform); Philosophy 5 (Political Philosophy); Philosophy 9 (Political and Social Ethics); Political Science 4 (Municipal Government).

I. GENERAL SOCIOLOGY.—Introduction to the problems faced, methods employed, conclusions reached, and points of view attained in treating social realities as objects of scientific investigation. *I*; (3).

Professor HAYES.

Prerequisite: Junior standing or equivalent preparation. It is exceedingly desirable that at least one course in psychology should precede or accompany this course, preferably Psychology 7.

2. Social Control and Sociological Ethics.—The methods by which society controls the conduct, beliefs, and desires of its members, by law, religion, education, public opinion, and other agencies; a study of the rational motives to conduct disclosed by analysis of social facts. II; (3).

Professor Hayes.

Prerequisite: Sociology 1.

3. Comparative and Genetic Sociology.—I; (3).

Professor HAYES.

Prerequisite: Same as for Sociology 1. It is desirable that Sociology 1 should precede or accompany Sociology 3.

4. PSYCHOLOGICAL SOCIOLOGY.—In this course psychological data are employed in explaining social facts. The treatment includes such subjects as the movements of minds in groups and masses, custom, fashion, conventionality, leadership, innovation, mobs, public sentiment, and public opinion. II; (3).

Professor Hayes.

Prerequisite: Sociology I.

5. Charities, Corrections, and Urban Problems.—The prevention and treatment of pauperism and crime. II; (3).

Professor HAYES.

Prerequisite: Sophomore standing or equivalent preparation, including at least one semester's work in economics or political science.

#### COURSES FOR GRADUATES

150. Seminary.—I, II; one session of two hours bi-weekly. Credit variable according to work done. Open to graduates only.

Professor HAYES.

# PHILOSOPHICAL STUDIES

# PHILOSOPHY

Students who make philosophy a major should take at least one year of psychology. With the exception of 1 and 10, no course may be taken before the completion of two years of University work.

I. Logic.—An introductory study of the principles of science, beginning with judgment, the role of thought in experience, terms, propositions, and syllogisms. It includes some practice in reasoning and the detection of fallacies, and some study of the principles of scientific method. *I*; (3).

Mr. Becker.

Prerequisite: One year of University work.

- 3. Ancient and Mediaeval Philosophy.—A rapid survey of the development of speculative thought, beginning with the early Greek philosophers and continuing through the Mediaeval period. *I*; (3).

  Professor Daniels
- 4. MODERN PHILOSOPHY.—The formation and development of the problems and conceptions in philosophy from Descartes to the present time. Selections from the philosophical masterpieces of this period. II; (3).

  Professor Daniels.
- 5. POLITICAL PHILOSOPHY.—Philosophical theories of the state, historical, critical, and constructive. The nature of the state, fundamental political principles, natural law, and natural right. II; (2).

  Mr. Becker.
- 6. ETHICAL IDEALS.—An historical study of philosophical thought in ancient, mediaeval, and modern times with reference to the problem of conduct. This course will include, as an introduction, some study of the beginnings of reflective thought on ethical questions in the race and the individual. Open to senior and graduate students only. II; (3).

  Professor Daniels.

Prerequisite: Three hours in psychology or philosophy.

7. ETHICS.—A course in systematic ethics. It undertakes a general survey of ethical theory. Selections from ancient and modern representatives of various theories are read and discussed, followed by a detailed study of a systematic treatise on ethics. II; (3).

Professor Daniels.

Prerequisite: Three hours in philosophy. [Not given in 1908-09.]

8. Esthetics.—Theory of the appreciation of art and nature; place of such appreciation in life. (a) Primitive arts and appreciation. (b) Modifications of the esthetic (such as the sublime and the ugly). (c) Prime characteristics and relations of the various fine arts. *I*; (3).

Dr. Norton.

Prerequisite: An elementary course in philosophy or psychology.

9. POLITICAL AND SOCIAL ETHICS.—A study of moral principles in their application to political and social relations. *I*; (2).

Professor Daniels.

IO. THOUGHT-MOVEMENTS OF THE NINETEENTH CENTURY.—This is less a technical account of the history of philosophy than a study of the literary and popular thought-movements of this century. It is intended for students of literature and general history as much as for special students of philosophy. I; (2). Mr. BECKER.

II. HISTORY AND PHILOSOPHY OF RELIGION.—The first half of the course is devoted to the study of religion as expressed in its earliest and simplest forms, and also of some of the great positive, contemporary religions. The second half of the course is confined to the philosophical interpretation of religious consciousness and a critical examination of various religious concepts. Open to senior and graduate students only. *I*, *II*; (2). Professor Daniels.

Prerequisite: Six hours in psychology or philosophy, or both.

13. Philosophy of Nature.—Relations between science and philosophy. Historical sketch of the foundations of our modern conception of nature. Metaphysical value of these. The relation of evolution to causation, of mind to body, and of realism to idealism in science. Open to seniors and graduate students. II; (3).

Mr. Becker.

14. The Principles of Knowledge and the Method of Scientific Investigation.—An advanced course in real logic beginning with a thorough review of the principles of formal logic covered in Course 1. The chief methodological presuppositions of the mathematical, the physical, the biological, the psychological, and the philosophical sciences. II; (3).

Mr. Becker.

Prerequisite: Philosophy 1, and either 3 or 4.

15. The Philosophical Thought of England in the Eight-Eenth Century.—Special attention is paid to Hobbes, Locke, Berkeley, and Hume. The course is a study of philosophical and scientific empiricism as represented in the works of these men. It will comprise readings, discussions, and lectures. I; (3). Dr. Norton.

Prerequisite: Either Philosophy 3 or 4.

#### COURSES FOR GRADUATES

Open also to seniors who have the necessary qualifications. Courses 3, 4, 5, 6, 8, 9, 11, 13, 14, 15, above described, may be taken by graduates, but a higher grade of work is required of graduates than of undergraduates.

IOI. THE PHILOSOPHY OF PLATO AND ARISTOTLE.—Several dialogues of Plato, and the Organon, Metaphysics, Ethics, Rhetoric, Poetics, and parts of the De Anima of Aristotle, are read in translation. I, II; (2).

Professor Daniels.

#### **PSYCHOLOGY**

Students who do major work in psychology must take a minimum of six hours in philosophy, four of which will be counted as a part

of the total number of hours required for the major in psychology. The courses specially advised are Philosophy 3a and 4. The attention of the student majoring in psychology is called also to Zoology 5 (Animal Behavior), and Zoology 7 (The Structure and Function of the Vertebrate Nervous System).

Psychology 1, 5, and 7 should be taken, if possible, in the sophomore year, and should precede Psychology 3 and 4. No student may do major graduate work in psychology without having had at least courses 1, 3, 4, 7, or their equivalent, and also at least two courses in philosophy. Psychology 1 may not be taken for graduate credit under any circumstances. Courses 3, 4, and 7, while they may not be taken as major graduate work, may, under certain circumstances, be elected as minors by graduate students.

#### INTRODUCTORY AND INTERMEDIATE COURSES

- I. ELEMENTARY PSYCHOLOGY.—This course deals with sensation, imagination, perception, attention, the higher intellectual faculties, and the affective life. It is the prerequisite for all further courses in psychology and should not be taken later than the junior year.

  I; (3). Professor Colvin, Assistant Professor Baird.

  Prerequisite: One year of University work.
- 3. EXPERIMENTAL PSYCHOLOGY.—The object of this course is to train the student in laboratory methods, and to give him an intimate acquaintance with normal mental phenomena. Lectures and laboratory work, two two-hour periods a week. *I*; (3).

Assistant Professor BAIRD, Dr. KUHLMANN.

Prerequisite: Psychology 1.

4. Experimental Psychology.—This course may be elected separately or as a continuation of Course 3. Lectures and laboratory work two afternoons (2 to 4) a week. II; (3).

Assistant Professor BAIRD, Dr. KUHLMANN.

Prerequisite: Psychology 1.

5. Genetic Psychology.—The more substantial results of child study; the phenomena of adolescence, and the intellectual problems confronting the youth. The development of the nervous system and growth of the body are traced in connection with the mental development. II; (2). Professor Colvin, Dr. Kuhlmann.

Prerequisite: Psychology 1.

7. THE PSYCHOLOGY OF THE EMOTIONS AND THE WILL.—This course is a continuation of Psychology 1 and deals with the principal phenomena of volition and feeling as distinguished from those of the

intellect. Illustrations will be taken largely from biography, history and literature. II; (3). Professor Colvin.

Prerequisite: Psychology 1.

9. Physiological Psychology.—The growth and structure of the central nervous system and the sense organs; sensation and its place among the elements of consciousness; the functions and psychology of the various sense organs; the physiological basis of the emotions. The work may be taken by medical students in connection with Psychology 1; otherwise an elementary course in psychology is a prerequisite. II; (2).

Assistant Professor Baird, Dr. Carpenter.

#### COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

6. Comparative Psychology.—Animal behavior and its interpretation. Special attention will be given to the sensory equipments of animals, trophisms, instinctive behavior, acquired habits, the analysis of the learning process in animals, and animal intelligence. I; (2).

Dr. Kuhlmann.

Prerequisite: Psychology 1 and 7.

II. THE PSYCHOLOGY OF THE INTELLECTUAL PROCESSES.—A critical discussion of sensation, perception attention, memory, imagination, judgment, and reasoning. II; (2).

Assistant Professor BAIRD.

Prerequisite: At least eight hours of psychology.

12. MINOR PROBLEMS IN EXPERIMENTAL PSYCHOLOGY.—An advanced laboratory course in which special investigations are undertaken by the students. *I*, *II*; (2 to 5).

Professor Colvin, Assistant Professor Baird, Dr. Kuhlmann.

Prerequisite: Psychology 3 and 4.

13. Abnormal Psychology.—The pathological aspects of consciousness; arrested mental development in children and mental disorders in later life. *I*; (2). Dr. Kuhlmann.

Prerequisite: Eight hours in psychology.

14. The Psychology of Memory.—Two lectures a week, and two hours of laboratory demonstration. II; (3). Dr. Kuhlmann. Prerequisite: Eight hours in psychology.

## COURSES FOR GRADUATES

IOI. RESEARCH.—Opportunity to investigate advanced problems in experimental psychology, and in comparative and genetic psychology is offered to properly qualified graduate students. *I, II.* 

IO2. CONTEMPORARY LITERATURE.—The most important problems of contemporary psychology as they are presented in current psychological and philosophical journals. The special topic for 1908-09 is the social aspects of psychology. *I, II;* Professor COLVIN.

103. SEMINARY IN PSYCHOLOGY.—I, II; (1).

Professor Colvin, Assistant Professor Baird, Dr. Kuhlmann.

104. The History of Psychology.--II; (2).

Professor Colvin.

## **EDUCATION**

The courses of the department fall into two general divisions: Courses primarily for professional training, and courses more specifically designed for general culture. The first division includes courses I, 3, 4, 5, 6, II, I4, I5, I0I; the second division courses 2, I3, I6, I7, I8. Students majoring in education will be required to take a minimum of three hours in philosophy and three hours in psychology. They are specially advised to take courses 3a and 4 in philosophy, and courses and 5 in psychology. Graduate students who are taking their major work in education must have had as a prerequisite for such study, education I, 2, and 3 and at least one elementary course in psychology and one in philosophy. Any course offered by the Department of Education may, under proper conditions, be taken as a minor by graduate students. No student who has not at least junior standing will be allowed to elect courses in education.

#### INTRODUCTORY COURSES

- I. Principles of Education.—The basis of a scientific theory of education, critically considered from the standpoint of the individual in his relation to the mass. The more general problems of genetic psychology are studied, as well as those essential to the theory and art of teaching. I; (5). Professor Bagley.
- 2. HISTORY OF EDUCATION.—The development of educational theory and practice in their relation to the history of civilization. The educational problems of the earliest culture nations. The early Christian schools. Significance of scholasticism. The growth of the universities. The Reformation and its result. The lives and influence of great educators. II; (5). Professor BAGLEY.

#### INTERMEDIATE COURSES

3. General Methon.—Application of the principles of education, psychology, and logic to the art of teaching. II; (3).

Dr. Norton.

Prerequisite: Education 1.

6. High School Organization and Management.—A discussion of the essential elements of a good high school, together with a consideration of the conditions existing in Illinois; proposed solution of the many problems of secondary education; desired lines of progress; building up of an accredited high school; equipment; courses of study; electives; discipline. II; (3).

Professor Bagley and special lecturers.

Prerequisite: Education 1.

11. Observation and Practice Course.—Students observe regularly and systematically the instruction in particular classes in the Academy and neighboring high schools. Definite assignments are made by the instructor and reports made by the students. Four observation periods and one conference weekly. I, II; (3).

Professor Bagley.

Prerequisite: Education 3.

14. School Law.—A study of the development and present condition of school legislation in the United States. The school laws of Illinois are studied with special detail. *I*; (2). [Not offered in 1908-09.]

Prerequisite: At least eight hours in education.

15. School Hygiene.—The hygienic aspects of school architecture and equipment, administration, the teaching-learning process, and the condition and habits of pupils. II; (2). Dr. Norton.

Prerequisite: At least five hours in education.

16. Social Phases of Education.—The school as a social factor and its relation to the home, the church, and the state; the relation of education to child labor, vocation, and crime; educational extension. II; (3).

Dr. Norton.

Prerequisite: At least five hours in education.

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

4. CONTEMPORARY EDUCATIONAL CONDITIONS AND MOVEMENTS IN THE UNITED STATES.—The interpretation of present tendencies as exemplified in the school systems of typical cities and states and in recent educational experiments in administration, discipline, methods, and subject matter. I; (2). Professor BAGLEY, Dr. NORTON.

Prerequisite: Education 1 and 2.

5. Comparative Study of the Secondary Schools of France, Germany, England, and the United States.—The different types of secondary schools in each country; conditions of their origin and development; their present status and relation to elementary schools and universities. II; (2).

Dr. Norton.

Prerequisite: Education 1 and 2.

13. EDUCATIONAL CLASSICS.—A critical study of the sources of the history of education. The more important educational works of Plato, Aristotle, Quintilian, Montaigne, Milton, Locke, Rousseau, Pestalozzi, Herbart, Froebel, Spencer, and others are considered. I; Dr. Norton. (3).

Prerequisite: Education 2 and Philosophy 3a and 4.

17. HERBARTIAN PEDAGOGICS.—The philosophy, psychology, and pedagogy of Herbart are critically studied and compared with other pedagogical systems, I: (2). Dr. Norton.

Prerequisite: Education 3.

18. PRINCIPLES OF ESTHETIC, MORAL, AND RELIGIOUS EDUCATION. -Values, ideals and methods of each; their relation to each other, to intellectual training, and to the utilities of life; their effects on social and national life and on the general advancement of the fine arts; selection of the material of instruction, and the development of individual taste and conscience; the public school, the Sunday school, and other instrumentalities. I; (3). Dr. NORTON.

Prerequisite: Education 2 and Psychology 7.

#### COURSES FOR GRADUATES

101. SEMINARY IN THE PHILOSOPHY AND HISTORY OF EDUCATION. -I, II; (Arrange number of credits).

Professor Colvin. Professor Bagley.

# MATHEMATICAL AND PHYSICAL SCIENCES MATHEMATICS `

The courses are arranged to meet the needs of three classes of students: (1) those who wish to elect the subjects as an element in a general education; (2) those who will have occasion to make use of mathematics in cognate subjects, and (3) those who wish to specialize in mathematics. Those who select mathematics as a major subject should take mathematics 2, 4, 6 in the freshman year; mathematics 8a, 8b, 10 in the sophomore year, and mathematics 8b (continued), 16, 17, 19 in the junior year. In the senior year such selection may be made from the courses open to graduates and undergraduates as seems desirable. Students specializing in mathematics are advised to take work also in some line of applied mathematics.

<sup>1</sup>2. COLLEGE ALGEBRA.—The work of this course assumes a knowledge of algebra through quadratics. Sections A-S are open to engineers.  $I_{ij}$  (3).

Professor Miller, Associate Professor Wilczynski, Assistant Professor Rietz, Assistant Professor Haskins, Assistant Professor Young, Dr. Sisam, Mr. Ponzer, Dr. Neikirk, Dr. Crathorne, Dr. Börger, Dr. Reed, Dr. Lytle.

3a.. Spherical Trigonometry.—II; (2). Dr. Reed. Prerequisite: Solid and Spherical Geometry.

<sup>2</sup>4. PLANE TRIGONOMETRY.—I; (2).

Professor Miller, Associate Professor Wilczynski, Assistant Professor Rietz, Assistant Professor Haskins, Assistant Professor Young, Dr. Sisam, Mr. Ponzer, Dr. Neikirk, Dr. Crathorne, Dr. Börger, Dr. Reed.

- 5. Teachers' Course.—In this course special attention is given to a discussion of the methods of teaching algebra and geometry, the position of mathematics in the secondary school course, the correlation of mathematics with allied subjects, a comparative study of the leading text-books, and a brief history of elementary mathematics. II; (2).

  Dr. Lytle.
- 6. ANALYTIC GEOMETRY.—An introductory course in plane and solid analytic geometry. Sections A to S are for engineers, sections T to V are for students of the College of Science, and the College of Literature and Arts. II; (5).

Professor Miller, Associate Professor Wilczynski, Assistant Professor Rietz, Assistant Professor Haskins, Assistant Professor Young, Dr. Sisam, Mr. Ponzer, Dr. Neikirk, Dr. Crathorne, Dr. Börger, Dr. Lytle.

Prerequisite: Mathematics 1, 3 or 2, 4.

7. DIFFERENTIAL CALCULUS.—The principles of the differential calculus are developed and applied to functions of one and of several variables, with special reference to the needs of engineering students. *I*; (5).

Associate Professor Wilczynski, Assistant Professor Rietz, Assistant Professor Haskins, Assistant Professor Young, Dr. Sisam, Mr. Ponzer, Dr. Neikirk, Dr. Crathorne, Dr. Börger, Dr. Lytle.

Prerequisite: Mathematics 6.

<sup>&</sup>lt;sup>1</sup>Three sections repeat the work in the second semester.

<sup>&</sup>lt;sup>2</sup> Two sections repeat the work in the second semester.

8a. DIFFERENTIAL AND INTEGRAL CALCULUS.—An introductory course in which weight is attached primarily to the acquisition of skill in the formal processes of the calculus. *I*; (5).

Professor MILLER, Dr. LYTLE.

Prerequisite: Mathematics 6.

8b. DIFFERENTIAL AND INTEGRAL CALCULUS (second course).—In this course the fundamental notions and theorems of the calculus which have been used in 8a are considered from a more advanced and critical point of view. The need of rigor in demonstration is insisted upon and the method pointed out by which it may be obtained. II, I; (2).

Assistant Professor Young, Dr. SISAM.

Prerequisite: Mathematics 8a.

9. INTEGRAL CALCULUS.—This course together with mathematics 7 constitutes a year's continuous work in calculus. The general principles of the integral calculus are developed with usual applications to geometry, centers of gravity, moments of inertia, etc. II; (3).

Associate Professor Wilczynski, Assistant Professor Rietz, Assistant Professor Haskins, Assistant Professor Young, Dr. Sisam, Mr. Ponzer, Dr. Neikirk, Dr. Crathorne, Dr. Börger, Dr. Lytle.

Prerequisite: Mathematics 7.

- 10. Theory of Equations and Determinants.—A continuation of the theory of equations given in college algebra (Mathematics 1, 2). It is based on Burnside and Panton's Theory of Equations, Part One. II; (3).

  Professor Miller.

  Prerequisite: Mathematics 2, 4 (or 1, 3), 6.
- 12. Theory of Invariants.—The general development of the theory of invariants, both from the geometric and from the algebraic side. Applications of invariants to systems of conics and higher plane curves. *I*; (3).

  Assistant Professor Rietz.

Prerequisite: Mathematics 8b (or 9), 11.

13a. Functions of Real Variables.—An introduction to the theory of functions of real variables, making use of the general principles of the theory of assemblages. The two courses in functions (13a, 13b) are a continuation of the work done in calculus (8a, 8b, or 7, 9). I, II; (3).

Professor Townsend.

Prerequisite: Mathematics 8a, 8b, (or 7, 9), 10.

13b. Functions of a Complex Variable.—A general introduction to the theory of functions of a complex variable. *I, II;* (3).

Professor Townsend.

Prerequisite: Mathematics 8a, 8b (or 7, 9), 10.

14. METHOD OF LEAST SQUARES.—The fundamental principles of the subject. The following subjects are studied: Law of probability and error, adjustment of observations, precision of observations, independent and conditional observations, etc.  $I_j$  (2).

Assistant Professor STEBBINS.

Prerequisite: Mathematics 8a, or 9.

15. SEMINARY AND THESIS .-- I, II; (3).

Professor Townsend, Professor Miller, Associate Professor Wilczynski, Assistant Professor Rietz, Assistant Professor Haskins, Assistant Professor Young.

16. DIFFERENTIAL EQUATIONS.—For students in the courses of engineering and of mathematics and of astronomy. It embraces the following topics: General linear equations with constant coefficients. special forms of differential equations of higher order, integration in series, etc. I; (3).

Professor Shattuck.

Prerequisite: Mathematics 8a, or 9.

17. Solid Analytical Geometry.—A general review of the position of the plane and the right line in space and the more general properties of surfaces of the second degree. The classification and special properties of quadratics, and a brief introduction to the theory of surfaces in general. II; (3).

Assistant Professor HASKINS.

Prerequisite: Mathematics 8a (or 7), 11.

18. Higher Plane Curves.—This course includes the general theory of algebraic curves, together with the application of the theory of invariants to higher plane curves. Special study is made of curves of the third and fourth order. II; (3). Dr. Sisam.

Prerequisite: Mathematics 12.

To Constructive Geometry.—The purpose of this course is primarily the development and training of the student's power of space perception. To this end the properties of lines, planes, and the simpler surfaces of the second order are studied by various methods of parallel and central projection. Special stress is laid on the graphical interpretation of the processes of analytic geometry and the analytic discussion of the methods of descriptive geometry. II; (2).

Dr. Börger.

20. CALCULUS OF VARIATIONS.—This course has for its aim merely to acquaint the student with those elements of the science which are most needed in the study of the higher subjects of mathematical astronomy and physics. II; (3). Professor Shattuck.

Prerequisite: Mathematics 11, 16.

21a. FOURIER'S SERIES.—The course is intended for students both of pure mathematics and of the physical sciences. It consists of a brief consideration of the elementary theory of Fourier's and allied series, followed by detailed discussion of numerous physical applications and consideration of classical and recent researches concerning the properties of Fourier's Series and operations upon them. I, II; (3).

Assistant Professor HASKINS.

Prerequisite: Mathematics 11 and 16.

22. Potential Function.—The potential function is defined and its properties derived and discussed. The potential of various bodies, such as of wire, a spherical shell, a sphere, ellipsoid of revolution, etc., is computed. Poisson's and Laplace's Equations are derived and discussed. Green's propositions with kindred and similar subjects are considered. II; (3).

Assistant Professor HASKINS.

Prerequisite: Mathematics 21.

23. Modern Geometry.—This course includes, in general, a consideration of homogeneous co-ordinates, duality, descriptive and metrical properties of curves, anharmonic ratios, homography, involution, projection, theory of correspondence, etc. *I*; (3).

Dr. SISAM.

Prerequisite: Mathematics 8a or 7, 11.

24. ALGEBRAIC SURFACES.—In this course are considered the application of homogeneous co-ordinates and the theory of invariants to geometry of three dimensions, and also the general theory of surfaces, together with the special properties of surfaces of the third and fourth order. II; (3).

Prerequisite: Mathematics 17, 18.

25. Partial Differential Equations.—It deals with the integration and determination of the integration constants of such partial differential equations as arise in the study of such subjects as the flow of heat, the vibration of strings, plates, etc., and electricity. II; (2). Professor Townsend, Dr. Crathorne.

Prerequisite: Mathematics 8a or 9, 16.

27. ELEMENTARY THEORY OF GROUPS.—The study of the groups which present themselves in arithmetic, geometry, and trigonometry

is followed by a determination and study of those which can be represented with a small number of letters. The latter part of the course is devoted to the abstract group theory and the Galois theory of equations. *I*, *II*; (3).

Professor Miller.

- 28. Theory of Numbers.—The principal subjects considered in this course are: congruences, Kronecker's modular systems, quadratic residues, quadratic forms, and algebraic numbers. I, II; (3).

  Professor Miller.
- 29. Averages and the Mathematics of Investment.—The meaning, use, and abuse of different kinds of averages. The relation of the theory of probability to averages, and the application of the elements of probability to annuities, insurance, and various branches of science. Such information relating to loans and investments as can best be put into algebraic language, and are of interest to the general student. Many practical problems are given in the valuation of investment securities. II; (3).

Assistant Professor RIETZ.

Prerequisite: Mathematics 2.

30. Theory of Statistics.—The general methods of statistical investigation, the application of the theory of probability to statistical data, the fitting of curves to observation, interpolation, the theory of errors, and the mathematical theory of variability and correlation, the application of principles developed to problems in economics, sociology, and biology. *I*; (3). Assistant Professor Rietz.

Prerequisite: Mathematics 8a, and 29.

31. ACTUARIAL THEORY.—A detailed study of the application of probability to life contingencies, the construction and graduation of mortality tables, the elements of fire insurance, and the calculation of premiums for various types of life and fire insurance. *I*; (3).

Assistant Professor Rietz.

Prerequisite: Mathematics 8a, and 29.

32. Projective Differential Geometry.—This course includes a brief account of Lie's theory with applications to the theory of invariants of systems of linear differential equations. The differential properties of plane and space curves, and of surfaces are considered from a projective point of view. It is this, more general, projective standpoint which distinguishes it from the usual treatment of differential geometry, which is metric. I, II; (3).

Associate Professor WILCZYNSKI.

Prerequisite: Mathematics 8b, 16, 17.

33. Functions of Real Variables (second course).—This course is a reading course based for the most part upon Hobson's Functions of Real Variables, but use is made of other standard treatises on the subject and of current literature. I, II; (3).

Professor Townsend.

Prerequisite: Mathematics 13a.

- N34. Theory of Abelian Functions.—Discussion of the algebraic functions of a complex variable and their integrals, Riemann's surfaces, birational transformation, Abel's theorem with geometrical applications, the inversion problem, and the theta functions. *I, II;* (3).

  Associate Professor Wilczynski.
- 35. Projective Geometry.—Sets of postulates for general projective geometry. Synthetic introduction of analytic methods. The principle of duality. Projectivity of one-dimensional forms. Conic sections and quadric surfaces. Elementary configurations. Linear congruences and complexes. Collineations in the plane and in space. Real and imaginary elements in geometry. *I*, *II*; (3).

Assistant Professor Young.

Prerequisite: Junior standing in mathematics.

36. Vector Analysis.—A systematic exposition of the subject based upon the notations of Gibbs, followed by a comparative study of the various systems which have been proposed. *I, II;* (3).

Associate Professor Wilczynski.

Prerequisite: Mathematics 8b.

# ASTRONOMY

Students without mathematical training may elect either course I or 4. Other courses should be taken in the order 3, 6, 15, 14, 7.

- I. ELEMENTARY ASTRONOMY.—This is a course for beginners and does not require mathematics. From lectures and the text, the student will be given a general view of the subject, and this class room work will be supplemented by direct observation of the sky. Some simple work will be done with the instruments of the observatory, but emphasis will be laid on those observations which can be made without apparatus, and which the student can do in after life. I; (3).

  Assistant Professor Stebbins, Dr. Reed.
- 3. GENERAL ASTRONOMY FOR ENGINEERS.—This course is intended to be taken with course 6 by engineers. In the class room

is given a general view of the subject, which will be supplemented by the observational work of the practical course. II; (3).

Assistant Professor STEBBINS.

Prerequisite: Mathematics 4, 6, 7 or 8a.

4. General Astronomy.—A beginners' course with more observational work than Astronomy 1. Two evenings per week are spent at the observatory. II; (5).

Dr. Reed.

Prerequisite: Mathematics 4.

6. Practical Astronomy.—This course is offered especially for engineers. Rough and accurate determination of latitude, azimuth, and time, are the essential parts of the course; and emphasis is laid on the methods which the engineer will be able to use with the ordinary surveyor's transit. The necessary amount of spherical trigonometry is given at the beginning of the work. This course is also designed to train the student in the art of computing. Comstock's Field Astronomy for Engineers. II; (2).

Assistant Professor Stebbins.

Prerequisite: Mathematics 4. 6, 7 or 8a.

7. THEORETICAL ASTRONOMY.—This course begins with the elementary theory of the motions of the heavenly bodies, and is intended to lead the student up to the actual computation of a cometary orbit. I, II; (3).

Dr. Reed.

Prerequisite: Mathematics 8a, 8b, or 7, 9.

9. CELESTIAL MECHANICS.—A continuation of course 7. Introduction to the theory of disturbed planetary motion. I, II.

Dr. REED.

Prerequisite: Mathematics 16; Astronomy 7.

14. Observational Astronomy.—This course is intended for those who wish to become familiar with the working methods of an astronomical observatory. The problems set for solution are largely individual. II; (3).

Assistant Professor Stebbins.

Prerequisite: Astronomy 15.

15. Geodetic Astronomy.—Advanced work with the sextant, transit, and zenith telescope. The methods taught are similar to those of the United States Coast Survey. *I*; (3).

Assistant Professor STEBBINS.

Prerequisite: Mathematics 7 or 8a.

COURSE FOR GRADUATES

IOI. SEMINARY AND THESIS.—I, II; (3).

Assistant Professor STEBBINS.

#### **CHEMISTRY**

Students taking chemistry at the University are advised to give, if possible, at least one year to the subject and this should include Chemistry I or Ia, 2, and 3. Those continuing in the second year should take Chemistry 5a and 5b, 5c or I3a. In the third year there should be taken Chemistry I4 or 9, 3I and 33a. Along with these, more special courses may be taken if desired, but in general, students are not advised to take the special courses unless they have had the fundamental work represented by the selection given above. Students who desire a training for professional work in chemistry, either as teachers or in its industrial applications, will naturally take the chemical course or the course in chemical engineering.

Students who find it impossible to take more than one semester's work are requested to register for Chemistry I or Ia in the second semester rather than the first.

I. INORGANIC CHEMISTRY.—This course deals with the general principles of the science. Alexander Smith's General Inorganic Chemistry. I, II; for engineers (4); for all others (5).

Professor Noyes, Dr. Balke, Dr. Smith, Dr. Isham, Mr. Davis, Mr. Nuttall, Mr. J. Coss, Mr. Knight, Mr. Egan, Mr. S. Coss, Mr. Funk.

1a. Inorganic Chemistry.—A course in inorganic chemistry for students who have had one year of high school chemistry. The course includes class and laboratory work. I; (3).

Professor Noves, Dr. Balke, Dr. Smith, Dr. Isham.

2. INORGANIC CHEMISTRY.—This course is a continuation of Chemistry I and is mainly devoted to a study of the metallic elements, their classification, compounds, and chemical properties. The work is from lectures and assigned text. It must be accompanied by Chemistry 3. Alexander Smith's General Inorganic Chemistry. II; (2).

Professor Noyes, Dr. Balke, Dr. Isham, Mr. Davis, Mr. Nuttall, Mr. J. Coss, Mr. Knight.

Prerequisite: Chemistry 1.

3. QUALITATIVE ANALYSIS.—This course consists of recitations and laboratory practice in the ordinary processes of qualitative analysis. It must be accompanied by Chemistry 2. I, II; (3).

Dr. Smith, Dr. Isham, Mr. Egan, Mr. S. Coss, Mr. Funk.

Prerequisite: Chemistry 1.

5a. ELEMENTARY QUANTITATIVE ANALYSIS.—The laboratory work comprises a series of experiments which illustrate the fundamental principles of gravimetric and volumetric methods. The lectures and recitations consist of a consideration of stoichiometrical relations, the fundamental laws of chemistry and their application to the study of solutions. Medical preparatory students are given special problems in the latter part of the course. *I*; (5).

Dr. Holmes, Dr. Jones, Mr. Clark, Mr. Ernest.

Prerequisite: Chemistry 2, 3.

5b. QUANTITATIVE ANALYSIS.—Continuation of 5a. A comparative study of methods with practice in the analysis of silicates, metallic compounds and alloys. Some work in advanced qualitative analysis will be given to students in the courses in chemistry and chemical engineering. II; Lectures; Laboratory; (5).

Dr. Holmes, Dr. Jones, Mr. Clark, Mr. Ernest.

Prerequisite: Chemistry 5a.

5c. Food Analysis.—This course includes the analysis of food stuffs, grain, milled products, alcoholic beverages, baking powders, vinegars, syrups, sugars, etc. Students who have taken work amounting to five hours' credit in this course may arrange to do more advanced work along the following lines: (a) the study of methods for detecting food adulterations; (b) the separation and determination of the nitrogenous constituents of animal and vegetable foods; (c) the identification and estimation of the carbohydrate constituents of food products. II; (3-5).

Dr. Holmes.

Prerequisite: Chemistry 5a or 13a, and 9 or 14.

6a. Metallurgy.—A general course in metallurgical processes. Lectures and assigned reading. *I*; (2). Professor Parr.

Prerequisite: Chemistry 5a.

6b. CHEMICAL TECHNOLOGY.—This is a course of lectures comprising a study of technological chemistry as illustrated in those industries having a chemical basis for their principal operations and processes. Much use is made of the journals. Thorp's Industrial Chemistry is used as a guide. No laboratory work. II; (2).

Professor PARR.

Prerequisite: Chemistry 5a.

8. IRON AND STEEL ANALYSIS.—Analyses are made of all the constituents by both rapid or technical, and standard methods. The course also includes the analysis of furnace slags and a study of the methods for decomposing ores and refractory products. II; (2).

Dr. Holmes

D1. 110L.

Prerequisite: Chemistry 5b.

9. Organic Chemistry.—For students of the medical preparatory course and others desiring a short course in this subject. The work consists in the discussion of the characteristics of the more typical and simple organic compounds, followed by a brief consideration of most of the important classes of derivatives of carbon. Remsen's Organic Chemistry. Must be accompanied by 9c. II; (3). Assistant Professor Curtiss

Prerequisite: Chemistry 2 and 3.

9a. Organic Synthesis.—Laboratory work for students of the chemical course, consisting of the preparation and study of typical organic compounds, to accompany Chemistry 14. I; (2). Assist-Assistant Professor Curtiss. Mr. Derick.

Prerequisite: Chemistry 2 and 3.

9b. Organic Synthesis and Analysis.—Continuation of 9a. including ultimate organic analysis to accompany Chemistry 14. II: (2). Assistant Professor Curtiss, Mr. Derick.

Prerequisite: Chemistry 9a.

9c. Organic Synthesis.—Laboratory work in organic chemistry for students of the medical preparatory course. Typical organic compounds are prepared and studied. Especial attention is directed to the organic substances of medicinal value and those of physiological importance. II; (2).

Assistant Professor Curtiss, Mr. Derick.

Prerequisite: Chemistry 5a.

10a. Sanitary Analysis.—Lectures on history, sources, contamination, and standards of purity of potable waters and waters for industrial purposes, together with practice in analytical methods. I; (2). Professor Bartow.

10b. A modification of 10a to meet the requirements of students in sanitary engineering, registered in connection with Chemistry Professor Bartow. 2 and 3.  $II: (1\frac{1}{2}).$ 

II. RESEARCH.-In the senior year a special line of work is arranged for each individual, designed particularly to develop selfreliance and initiative in dealing with new problems or topics needing comparative study or review. A thesis must be prepared embodying a thorough review of the literature of the subject, together with an account of the work done in the laboratory. As far as possible the subject must be determined upon and reading begun in the junior year. A minimum of five semester hours is required. I, II: (5).

Professors Noyes, Parr, Bartow, Hawk, Assistant Professor Curtiss, Dr. Holmes, Dr. Balke, Dr. Washburn, Dr. Smith, Dr. Isham, Dr. Jones, Dr. Mears, Dr. Lacy.

13a. AGRICULTURAL ANALYSIS.—This course is arranged to meet the special wants of agricultural students. The work begins with the quantitative determination and separation of the more important constituents of soils, fertilizers, and agricultural products; it includes the chemical analysis of foodstuffs, such as grains, fodders, dairy products and meats. *I*; (5).

Dr. Holmes, Dr. Jones, Mr. Clark.

Prerequisite: Chemistry 2 and 3.

13b. Advanced Agricultural Analysis.—This Course is offered to students who wish to specialize in agricultural chemistry or agricultural experimentation. The work includes the analysis of butter and cheese, the complete analysis of foods, soils, and plants, plant ash, rain and drain waters, and the determination of the fuel value of foods. If desirable, the work may be varied to meet the special needs of the individual student. II; (3, 5).

Prerequisite: Chemistry 5a or 13a.

14. Organic Chemistry.—This course consists of lectures and recitations upon the fundamental principles and more important compounds of organic chemistry. Noyes's Organic Chemistry. This course must be accompanied by Chemistry 9a and 9b. I, II; (3).

Professor Noyes.

Prerequisite: Chemistry 5a.

15. Physiological Chemistry.—This course is designed especially for students desiring a fundamental knowledge of the principles of physiological chemistry. It will consist of lectures, demonstrations, conferences and practical work. The course will include a systematic study of enzymes; carbohydrates; salivary synthesis; gastric digestion; fats; pancreatic digestion; intestinal digestion; bile; putrefaction products; feces; blood; milk; epithelial and connective tissue; muscular tissue; nervous tissue and urine. The work on gastric juice, blood, urine and milk will be both qualitative and quantitative, and all the clinical aspects of these topics will be treated thoroughly for the benefit of prospective

students of medicine. The course is open to graduates and undergraduates. *I*; (5).

Prerequisite: Two years' work in chemistry.

16. Chemistry for Engineers.—This course is arranged particularly for mechanical engineers. It involves the proximate analysis of coals, determination of calorific power, technical analysis of furnace gases, examination of boiler waters, lubricating oils, etc. II; (3).

Professor Parr, Dr. Mears.

Prerequisite: Chemistry 1.

- 18. Special Courses.—Special courses as indicated below, consisting mainly of laboratory work, may be arranged for those competent to pursue them. From 1 1to 10 hours' credit will be allowed in the undergraduate courses for such work.
- (a) Special problems in assaying and ore treatment. Free-milling chlorination and cyanide tests.

  Professor Park.
  - (b) Advanced metallurgical chemistry. Professor PARR.
  - (c) Analysis and calorimetry of fuels. Professor PARR.
  - (d) Paints, oils, etc. Protective coverings for wood and iron.

    Professor PARR.
  - (e) Analysis of commercial fertilizers. Dr. Holmes.
  - (f) Special methods of gas analysis. Professor PARR.
- 21. PROXIMATE ORGANIC ANALYSIS.—A course of laboratory practice, for advanced students, in systematic methods for the identification of organic compounds and a study of organic mixtures as found in commercial articles. *I*; (2).

Assistant Professor Curtiss, Mr. Derick.

Prerequisite: Chemistry 9b or 9c.

24. Toxicology.—Mainly laboratory work upon the detection and estimation of the more common poisons, organic and inorganic. II; (2).

Assistant Professor Curtiss, Mr. Derick.

Prerequisite: Chemistry 5a, and 9.

27. QUALITATIVE ANALYSIS OF THE RARE ELEMENTS.—A detailed study of the rare elements and their compounds. The work consists mainly in the identification and separation of the elements and the study of the formation, solubilities, and chemical reactions of their salts. Reading is assigned in connection with laboratory work. II; (3).

Dr. Balke.

Prerequisite: Two years' work in Chemistry.

31. ELEMENTARY PHYSICAL CHEMISTRY.—This course is designed to present, in an elementary manner, some of the more important

principles and methods of physical chemistry and electrochemistry. Instruction is by lectures and recitations. To secure familiarity in applying the laws and principles of physical chemistry to practical problems in other branches of chemistry, the student is expected to solve numerous problems in connection with this course. Walker's Introduction to Physical Chemistry. II; (3). Dr. WASHBURN.

Prerequisite: Chemistry I, 2, and 3; Physics I or 2a.

33a. ELEMENTARY PHYSICAL CHEMISTRY.—A laboratory course to accompany course 31. The experiments performed will include, the methods of determining molecular weight both in the gaseous state and in solution; the application of the principles relating to chemical equilibrium; the measurement of the electrical conductivity of solutions and the application of this property in interpreting the phenomena occurring within the solution; and the illustration of some of the fundamental conceptions of thermochemistry. II; (2).

Dr. WASHBURN, Dr. LACY.

Prerequisite: Chemistry 5a, Physics 2b or 3.

34. ELECTROCHEMISTRY.—A series of lectures and conferences to accompany course 35. Blount's Practical Electrochemistry, and Perkin's Practical Methods of Electrochemistry. See also Chemistry 102b. I; (1).

Dr. LACY.

Prerequisite: Chemistry 31.

35. Electrochemistry.—A laboratory course dealing with the practical applications of electrochemistry in the industries. Intended for students going into technical work and for engineers. This course will deal with the electrodeposition and refining of metals both in aqueous and igneous solution, electrolytic preparation of inorganic and organic substances, the principles of electroplating, and the products of the electric furnace, such as the preparation of carbides, carborundum, aluminum, calcium, and the reduction of refractory ores. *I*; (2, 5).

Dr. Lacy.

Prerequisite: Chemistry 33a.

61. Industrial Chemistry.—A laboratory course in the preparation of chemical products from raw materials. The manufacture and testing of pure chemicals, fractionation, and other processes of the manufacturing chemist. II; (2). Professor Parr, Dr. Mears.

Prerequisite: Chemistry 5a.

65. Technical Gas and Fuel Analysis.—Examination of gases, gas mixtures, flue gases, and fuels. Determination of calorific values and calculation of efficiencies. *I*; (2).

Professor Parr, Dr. Mears.

68a. Analysis of Glasses and Glazes.—For students in ceramics. A study of methods and practice on special problems connected with the pottery industry. I: (3).

Prerequisite: Chemistry 5b.

68b. CEMENT CHEMISTRY.—For students in ceramic engineering. This course includes the analysis of cements, cement materials, pottery bodies, etc. I; (3). Dr. HOLMES.

Prerequisite: Chemistry 5b.

69. Assaying.—The fire assay of lead, gold, and silver ores. Fluxes, reagents, and charges are studied in connection with various typical ores, and practice given in use of the crucible and muffle furnaces and in the manipulations connected with fire assaying. I: (I). Professor Parr. Dr. Mears.

Prerequisite: Chemistry 5a.

93. JOURNAL MEETING.—For juniors, seniors, and graduates. I, II; (1). All members of the teaching staff in the Chemical Department.

#### COURSES FOR GRADUATES

Graduate students whose major subject is in some other department than chemistry, before taking graduate work for credit in this department must have had the equivalent of 15 University credits in chemistry, and the work covered must have included satisfactory work in general chemistry and in qualitative and quantitative analysis. Such students are advised to take Chemistry 102, 5b, 5c, or 14. Courses of a more special nature will not, as a rule, be accepted for graduate work unless preceded by one of the above courses.

Graduate students who are candidates for an advanced degree in chemistry must have had the equivalent of 30 University credits in chemistry, and this must include satisfactory courses in general chemistry, qualitative and quantitative analysis, physical chemistry, and organic chemistry. Before receiving the degree of Doctor of Philosophy such students will be expected to complete work equivalent to course 102, 14, 9a, 9b, 10a, 65, 69, and 111.

101. HISTORY AND THEORIES OF CHEMISTRY.—A discussion of the historical development of the science of chemistry. I; (2).

102. ADVANCED PHYSICAL CHEMISTRY.—This course will be conducted on the seminar plan and, together with 102a, is intended to cover a period of two years. The subject is treated from the standpoint of Avagadro's Principle and Thermocynamics and the course is based primarily upon Nernst's "Theoretische Chemie." The primary purpose of this course is to develop power to handle successfully a physico-chemical problem rather than to merely impart a knowledge of the phenomena and the principles involved. Textbooks: A. A. Noyes's General Principles of Physical Science; Nernst's Theoretische Chemie, 5th edition, or the translation of the 4th edition. I, II; (2).

Prerequisite: Chemistry 1, 2 and Physics 1, 3. Mathematics 8a

or 7 and 9.

An elementary knowledge of organic and physical chemistry is desirable. A good reading knowledge of German will be found very helpful.

IO2a. ADVANCED PHYSICAL CHEMISTRY.—A continuation of course IO2. The following topics will be considered in this part of the course: The physical properties of chemical substances, the Phase Rule, certain portions of thermochemistry, photochemistry, the thermocynamics of electrochemistry, radioactivity and the atomistic theory of electricity. This course alternates with course IO2. Not given in 1908-09. Text-books: Nernst's Theoretische Chemie; Findlay's The Phase Rule and its Applications; Smiles's The Relation between Chemical Constitution and Physical Properties. I, II; (2).

Prerequisite: The same as course 102.

102b. ADVANCED ELECTROCHEMISTRY.—This course deals with the modern theories of solution and the principles of thermodynamics in their application to the problems of electrochemistry. The subjects of electrolytic conductivity and transference, electromotive force, and the energy principles underlying the transformations of chemical and electrical energy are discussed in detail. The recent advances in the electrolysis of fused electrolytes and the applications of electricity to gaseous reactions at high temperatures will also be dealt with. Text-book: LeBlanc's Electrochemistry. This course is also open to undergraduates having the necessary preparation. II; (3).

Prerequisite: Chemistry 31 and 33a. Mathematics 8a or 7 and 9.

IO2C. ADVANCED PHYSICAL AND ELECTROCHEMISTRY.—A laboratory course dealing with the applications of physico-chemical methods to special problems. The nature of the experiments preformed by the student will depend upon his previous training in this subject and his purpose in taking the course. The experiments are designed to develop the power of independent thinking in applying

physico-chemical methods to problems in the laboratory. This course must be preceded or accompanied by course 102 or 102b. II; (2).

Dr. WASHBURN, Dr. LACY.

Prerequisite: Chemistry 31 and 33a. Mathematics 8a or 7 and 9. 103. ADVANCED INORGANIC CHEMISTRY.—A systematic presentation of descriptive inorganic chemistry, including the rarer elements and based on the periodic system. The work consists of two lectures a week throughout the year, which may or may not be accompanied by laboratory work on advanced inorganic preparations. I. II; (2-5). Dr. BALKE.

103a. ADVANCED ANALYTICAL CHEMISTRY.—This course is designed for students who may desire to take advanced work in either Qualitative or Quantitative Analysis. The lectures will deal with special topics in Analytical Chemistry. II; (1-5). Dr. HOLMES.

104. ADVANCED ORGANIC CHEMISTRY.—Special chapters. course consists of two lectures a week with assigned reading and is especially recommended to students doing research work in this subject. Special attention is given to the detailed study of recent research methods in such fields as: Condensations, carbohydrates, fermentation, and enzyme action, the purine group, the proteins, isomeric change, stereochemistry of nitrogen, color, and chemical constitution, alkaloids, etc. The chapters may be varied from year Assistant Professor Curtiss. to year. I; (2).

Prerequisite: Chemistry 9 or 14.

105. ADVANCED PHYSIOLOGICAL CHEMISTRY.—This course consists of lectures, conferences, and demonstrations, and embraces selected portions of physiological chemistry which are not covered by Chemistry 15. The course is open to graduates or undergraduates. II; (2). Professor HAWK.

Prerequisite: Chemistry 15.

106. CHEMISTRY OF FLESH.—A course consisting mainly of laboratory work, in which students may specialize upon any of the following subjects: Chemistry of the cooking of meats; losses involved in the cooking of meats; digestibility of meats; comparative study of the methods for determining the nitrogenous constituents of meats; separation, purification, and estimation of the nitrogenous constituents of meats. I or II; (5, 15). Professor Grindley.

Prerequisite: Two years' work in chemistry.

107. CALORIMETRY OF FUELS.—An advanced course in the study of methods for determining the heat values of solid, liquid, and gaseous fuels. I, II; (1-3). Professor PARR. 108. WATER SUPPLIES.—A study of the sources of contamination of water supplies and the purification of water for potable or technical use. *I*, *II*; (5). Professor Barrow.

III. THESIS WORK.—A thesis will usually be required of students taking the Master's degree and will always be required of students taking the degree of Doctor of Philosophy. As an illustration of the character of the work which may be done for theses the following list of investigations now in progress in the department is given.

PHYSICAL CHEMISTRY.—Dr. WASHBURN, Determination of the electrochemical equivalent. A physico-chemical study of aqueous solutions of caesium nitrate. Simplification of the cyclical process method for the derivation of thermodynamic equations. Dr. Smith, Chemical equilibrium between amalgams and solutions.

ELECTROCHEMISTRY.—Dr. LACY, Properties of solutions of electrolytes in fused boric oxide.

INORGANIC CHEMISTRY.—Dr. BALKE, Atomic weight of tantalum. Double fluorides of tantalum and columbium. Dr. Holmes, Interaction of hydrochloric acid and manganese dioxide. Peroxides and dioxides. Dr. Smith, Ammonium amalgams. Dr. Isham, Hydroxylamine compounds. Ferric acid. Dr. Jones, Atomic weight of phosphorus.

ANALYTICAL CHEMISTRY.—Professor GRINDLEY, A study of the precipitation of barium sulphate. Dr. Holmes, Analysis of silicates. Determination of cadmium in the presence of zinc. Separation of antimony and tin.

ORGANIC CHEMISTRY.—Professor Noyes, Molecular rearrangements in derivatives of camphoric acid. Assistant Professor Curtiss, Reaction of alcohols on mesoxalic ester. Derivatives of malonic ester containing nitrogen. Condensations in the I, 2, 3 triketone series.

Sanitary Chemistry.—Professor Bartow, Action of coagulents on Lake Michigan water. Action of boiler compounds on water. Filtration and sterilization of river water.

ANIMAL CHEMISTRY.—Professor GRINDLEY, The chemistry of flesh. Improved methods for the analysis of animal substances. A study of the excretion of nitrogen in the form of nitrates. A study of chlorine metabolism as influenced by variations in the diet. The occurrence and distribution of nitrates in foods. Determination of sulphur in animal substances.

Physiological Chemistry.—Professor Hawk, A study of the excretion of the various forms of nitrogen as influenced by the diet. A study of the relation existing between urea and the total nitrogen content of the urine as influenced by variations in diet. Influence of fasting upon changes in the blood. The variation in the nitrogen partition in well-fed and fasting animals.

INDUSTRIAL CHEMISTRY.—Professor PARR, Weathering of coal. Changes in coal on heating to moderate temperature. Formation of calcium silicates at low temperatures. Mixtures of asphalt for technical purposes. Professor Bartow, Softening of water.

#### **PHYSICS**

#### INTRODUCTORY COURSES FOR UNDERGRADUATES

I. General Physics.—Lectures with class room demonstrations, recitations, and written exercises. This course is taken regularly by sophomores in engineering, mathematics, physics, and chemistry. The laboratory course, Physics 3, is to be taken at the same time. Two lectures and one quiz weekly. I; (3). II; (2).

Professor Carman, Assistant Professors Watson and Schulz, Mr. Stempel, Mr. Stifler, Mr. Stuhlmann, Mr. Converse, Mr. Kemp.

Prerequisite: Mathematics 3 or 4.

3. Physical Measurements.—Laboratory experiments running parallel with Physics 1; two two-hour periods each week; during the first six weeks there will be quizzes in connection with Physics 1. I, II; (2).

Assistant Professor Schulz, Mr. Stempel, Mr. Stuhlmann, Mr. Converse, Mr. Kemp.

Prerequisite: See Physics 1.

2a. General Physics.—Lectures with class room demonstrations and recitations. This course is recommended for students in courses in arts and science. The laboratory course, Physics 2b, is to be taken at the same time. Two lectures and one quiz weekly.

I., II; (2). Assistant Professor Watson, Mr. Stifler.

Prerequisite: Mathematics 3 or 4 (or may be taken at same time).

2b. Introductory Laboratory Physics.—A course of physical measurements to supplement Physics 2a. Two two-hour laboratory periods weekly. I, II; (2)

Assistant Professor Watson, Mr. Stifler.

Prerequisite: See Physics 2a.

#### INTERMEDIATE COURSES

These courses are second-year physics courses, following General Physics 1 and 3, or 2a and 2b.

14. PROPERTIES OF MATTER.—Text-books, Poynting and Thomson's Properties of Matter; Stewart and Gee's Practical Physics, Vol. I. Two afternoons in the laboratory, with recitation, assigned reading, and reports. I, II; (2).

Professor CARMAN, Assistant Professor KNIPP.

Prerequisite: Physics 1 and 3, or 2a and 2b.

- 15. ELECTRICITY AND MAGNETISM.—A laboratory course with lectures, assigned reading, and reports. *I, II;* (2). Mr. WILLIAMS. *Prerequisite:* Physics 1 and 3, or 2a and 2b.
- 16. Heat. Lectures and recitations on fundamental heat phenomena, and elements of the mechanical theory of heat. Laboratory experiments in thermometry, calorimetry, vapor pressures, expansion, and conduction and radiation of heat, mechanical equivalent of heat, etc. II; (2).

  Assistant Professor Watson.

Prerequisite: Physics 1 and 3, or 2a and 2b.

- 17. LIGHT.—Recitations and laboratory exercises. Edser's Light is used as a text-book. II; (2). Professor CARMAN.

  Prerequisite: Physics I and 3, or 2a and 2b.
- 18. Teacher's Course.—Practical work for students preparing to teach physics. The course includes (a) discussion of classroom text-books, laboratory manuals, apparatus ordering, and methods of conducting work in physics; (b) the working out in detail of a laboratory course suitable for a high school. The student will perform some of the experiments to be given in this proposed course, and will also do manipulative work with glass and apparatus when necessary. *I*; (2). Assistant Professor Watson.

Prerequisite: Physics I and 3, or 2a and 2b.

23. Sound.—Lecture, recitations, and experiments on phenomena of sound. The course will include a consideration of the origin, propogation, velocity and interference of sound, the vibration of strings, rods, and gas columns, and the physical theory of music and speech. II; (2).

Assistant Professor Watson.

# COURSES FOR GRADUATES AND UNDERGRADUATES

4. ELECTRICAL AND MAGNETIC MEASUREMENTS.—Laboratory exercises with discussions and recitations. The course extends throughout the year. It is taken by junior students in electrical engineering and is recommended to others wishing an exact course in electrical

and magnetic measurements. Two three-hour periods weekly. I, II; (2). Assistant Professor Knipp, Mr. Williams, Mr. Swisher. Prerequisite: Physics 1 and 3, or 2a and 2b; Mathematics 7 and 9.

20a. Light.-Lecture and recitations with class demonstrations of special phenomena. Modern theories are discussed and readings assigned in the texts of Drude, Wood, and Preston. I or II; (2).

Professor CARMAN.

Prerequisite: Physics I and 3, or 2a and 2b; Mathematics 7 and 9, or 8a.

20b. Light.—A laboratory course in light measurements selection experiments in dispersion, refraction, interference, polarization, etc. Two to five periods weekly for either semester. I or II; (2 Professor CARMAN. to 5).

Prerequisite: Physics 1 and 3, or 2a and 2b; Physics 17 desired.

21. RECENT ADVANCES IN PHYSICAL SCIENCE.—Lectures illustrated by experiments on the more recent developments of physics. The subject for the first semester of 1908-09, will be Electrical Waves and Resonance, to be given by Dr. KNIPP. The subject for the second semester will be announced later. One lecture weekly for the year. I, II; (1).

Professor Carman, Assistant Professors Knipp and Watson.

22. THERMODYNAMICS.—Lectures and collateral reading on the principles and methods of thermodynamics. This course includes a discussion of thermometry, calorimetry, the laws of the conservation and transformation of energy, and the application of these laws to typical physical and chemical phenomena. Bryan's Thermodynamics is used as a text and reference book. II; (2).

Given in 1907-08 by Associate Professor Goodenough. Prerequisite: Mathematics 7 and 9.

- 24. CONDUCTION OF ELECTRICITY IN GASES AND RADIO-ACTIVITY.— A critical study both theoretical and experimental of recent investigations in this line. Text-books: Thomson's Discharge of Electricity through Gases; Rutherford's Radio-Activity. Three periods weekly. Assistant Professor KNIPP. I or II; (3).
- 25. HEAT.—Lectures and recitations based on Le Chatelier's High Temperature Measurements. Laboratory work will be given involving measurements of temperatures with thermo-couples, resistance thermometer and various types of optical pyrometers. Melting and boiling points will also be determined. Problems involving the in-

vestigation of properties of bodies over a range of temperature from that of liquid air to the electric arc will be taken up so far as time allows, but such problems will more properly come under course 31.

II; (2).

Assistant Professor Watson.

Prerequisite: Physics 1 and 3, or 2a and 2b; Physics 16 advised.

- 26. JOURNAL CLUB.—Weekly meeting of the instructors and advanced students of the department to discuss assigned papers and topics. These discussions are often accompanied by experimental demonstrations. *I*, *II*; (1).
- 30a. Introduction to Theoretical Electricity.—A course of lectures and recitations discussing the phenomena with elementary calculus methods, and with occasional lecture-room demonstrations. Two periods weekly for the year. I, II; (2).

Assistant Professor KNIPP.

Prerequisite: Physics 1 and 3, or 2a and 2b.

30b. ELECTRICITY AND MAGNETISM.—A course of electrical measurements, including experimental work in some of the more recent developments, such as electric waves and their application to wireless telegraphy, electrical discharge in gases, etc. *I or II;* (2, 3, or 5).

Assistant Professor Knipp.

Prerequisite: Physics 4, 30a desired.

31. INVESTIGATION OF SPECIAL PROBLEMS.—An advanced course in the laboratory or in design and calculation. A problem is chosen and worked out with the advice and direction of the instructor. I, II; (3 or 5).

Professor CARMAN, Assistant Professors KNIPP and WATSON.

Prerequisite: One semester of physics in advance of Physics I and 3.

- 32. MATHEMATICAL PHYSICS.—Lectures and recitations on special topics in theoretical physics. *I, II;* (3). Professor CARMAN.
  - 33. SEMINARY AND THESIS.—I, II; (3 or 5).

    Professor CARMAN, Assistant Professor KNIPP and WATSON.

# **GEOLOGY**

For those who care particularly for minerals and rocks, their identification, origin, and transformations, 19, 1, 1a, 5, 6, 7, 2, 14, 4 are recommended.

For the history of rocks, the order in which they were laid down, the conditions which gave them their peculiarities, and the evolution of living forms as shown by the succession of fossils, 19, 1, 1a, 9, 16, 14, 4 are recommended.

For a study of the earth's surface, the origin of its topographic forms, the agencies which are transforming them, and the influence of these upon plants, animals, and man, 19, 14, 10, 5, 1a, 4 are recommended.

#### COURSES FOR UNDERGRADUATES

I. GENERAL GEOLOGY.—A study of the agents and processes involved in the development of the earth's present features. Lectures and laboratory work. A large part of the laboratory time will be given to the study of minerals and rocks. *I*; (5).

Professor Rolfe, Dr. BAGG.

1a. HISTORICAL GEOLOGY.—A continuation of Course I. A study of the evolution of the earth and its life. Lectures and laboratory work. The laboratory work will consist largely of a study of a few of the more characteristic fossils from the various horizons. This forms an introduction to Courses 9 and 16. II; (5).

Assistant Professor SAVAGE, Dr. BAGG.

Prerequisite: Geology I or Io.

2. Economic Geology.—A study of the origin and manner of occurrence of minerals and rocks of economic importance, with special reference to those found in North America. Lectures and laboratory work. II; (5). In alternate years. Offered in 1908-09.

Associate Professor Bayley.

Prerequisite: Geology 5 and 1, 3.

3. Elements of Geology.—This course is an abridgement of courses 5, 1, 1a, and 2. One hour each day is devoted to laboratory work, and this time is about equally divided between the study of minerals, rocks, contour maps, etc., and fossils.  $I_{ij}$  (5).

Professor Rolfe, Dr. Bagg.

- 4. Thesis Course.—Students making a specialty of Geology are assigned certain work upon which they are expected to make a complete report, under the direction of some one of the instructors in the department, with maps, sections, and figures based on their own observations. II; (5).
- 5. MINERALOGY.—An introduction to succeeding work in petrography and economic geology, and furnishing a general working knowledge of the most common ores and of minerals of scientific importance; lectures and laboratory exercises upon the elements of crystallography and upon characteristics of about 125 of the most

important minerals. The laboratory work includes a short course in blow-pipe analysis. *I*; (5).

Associate Professor BAYLEY.

Prerequisite: Chemistry 1.

8. Physical Geography.—Physiography of Europe and the Americas with selected regions in Asia, Africa, etc. This course is arranged primarily for students in the courses in commerce, as it explains the physical conditions which control the production of the principal commodities used by man. II; (3).

Professor Rolfe, Mr. Hutton.

Prerequisite: Geology 14.

10. Physiograpic Geology.—A course in General Geology in which special stress is laid on the origin, modification, and destruction of geographic forms, and on the relation of these forms to underlying geologic structure. II; (5).

Professor Rolfe, Mr. Hutton.

12. AGRICULTURAL GEOLOGY.—A strictly technical course designed to meet the wants of the agriculturist. Open to students in agriculture only. II; (5).

Professor Rolfe, Dr. Bagg.

Prerequisite: Chemistry I or an equivalent.

13. Engineering Geology.—An elementary course in General Geology in which the lectures and laboratory work are arranged especially with reference to the needs of engineering students. Open only to Civil Engineers and students in Ceramics. II; (3).

Associate Professor BAYLEY, Dr. BAGG.

14. Meteorology.—An elementary course in meteorology, oceanography and climatology. This course deals with the general circulation of the atmosphere; ocean currents; the laws of storms; and the influence of these and topographic features on the distribution of rainfall and the climatic conditions which control the geographic distribution of plants and animals. *I*; (3).

Professor Rolfe, Mr. Hutton.

# COURSES PRIMARILY FOR UNDERGRADUATES

6. Physical and Optical Mineralogy.—A direct introduction to the course in Petrography. The physical and optical properties of minerals are discussed in lectures and studied in the laboratory, with special reference to their relations with respect to symmetry. The larger portion of the work is devoted to the study of polarized

light and its practical use in identifying the rock-forming materials. II; (3).

Associate Professor Bayley.

Prerequisite: Geology 5.

7. Petrography.—The principles learned in Course 6 are applied to the study of rocks. Lectures describe the different types of these rocks and discuss their origin and classification. In the laboratory a representative suite of specimens is studied in the hand specimen and thin section.  $I_{ij}$  (3).

Associate Professor BAYLEY.

Prerequisite: Geology 6.

9. PALEONTOLOGY.—A study of invertebrate fossils, their classification and relationships, their succession in the rocks, and their geographic distribution. Instruction will be given in the identification of the fossils, and in the finding and use of the literature of the subject. Lectures and laboratory.  $I_{j}$  (5).

Dr. BAGG.

Prerequisite: Geology 1a, 3 or 10.

16. Stratigraphy.—This course follows Course 9, and is a study of the principles of classification and nomenclature of rock formations, of the methods and criteria employed in correlation, of the characteristic faunas and floras of the successive geologic formations and their distribution, and of the relation of these to the interpretation of stratigraphy. Lectures and laboratory. II; (5).

Assistant Professor Savage.

Prerequisite: Geology 9.

19. FIELD GEOLOGY.—Introductory Course.—A field trip of two weeks will be taken as a course introductory to the study of stratigraphy, paleontology, and physiography. In 1908 this trip will be made in September. Stops will be made at Crawfordsville and Richmond, Ind., Louisville, and the Falls of Ohio, and at Wyandotte or the Mammoth Cave region. Careful notes will be required on the physiography and stratigraphy of the localities visited. Fossils will be collected, and their use in determining the age of rocks will be explained.

Assistant Professor Savage, Mr. Hutton.

# COURSES PRIMARILY FOR GRADUATES

102. Petrography.—Lectures and laboratory work on the igneous rocks including identification of types, classification, and relationships. I. Associate Professor Bayley.

103. Petrography.—A continuation of course 102 in which schists and sedimentary rocks become the objects of study. II.

Associate Professor BAYLEY.

105. Stratignaphic Paleontology.—A course devoted to the study of the literature and fossils of a special geological system; their geographic distribution; the geologic provinces, and the origin and the routes of migration of the different faunas during the period. Largely individual work. Time can be arranged.

Assistant Professor Savage.

106. FIELD AND LABORATORY COURSE,—A course consisting of a systematic study of a selected area. Assistance will be given in collecting specimens and working out the stratigraphic and structural relations in the field, and in their interpretation. A carefully prepared report on the geology of the region, based on the data collected in the field, will be required.

Assistant Professor Savage.

# PHYSICAL GEOGRAPHY

PHYSICAL GEOGRAPHY (Geology 8).—A discussion of the general principles of meteorology, oceanography, and climatology, followed by a study of the physical geography of North America and Europe, with reference to its influence on man and his welfare. It is assumed that the student has a good understanding of political geography, and of the principles of land development, etc., as set forth in such works as Davis's, Gilbert and Brigham's, or Saulisbury's Physical Geography. I, II; (3).

Professor Rolfe, Mr. Hutton.

(See also Geology 10.)

# \*CERAMICS

- I. CLASSIFICATION AND PHYSICAL TESTING OF CLAYS.—A course designed to acquaint the student with the properties of clays and other ceramic materials as well as with the identification of the varieties met in practical work. Lectures and laboratory work. II; (3).

  Mr. Knote.
- 2. Winning and Preparation of Clays.—A study of the commercial methods of winning and preparing ceramic materials. *I*; (3).

  Mr. Knote.

<sup>\*</sup>Courses in this department may not be elected by students in the College of Literature and Arts, except by special permission of the Dean.

- 3. Industrial Calculations.—Problems relating to the designing and operation of furnaces, kilns, and dryers, including temperature measurement. *I*; (2). Mr. Knote.
- 4. Drying and Burning.—A detailed consideration of the methods of drying and burning clay wares as well as of the types of the construction of industrial kiln plants. The chemical and physical processes carried on in these operations are studied as well. *I*; (4).

  Mr. Knote.
- 5. Body Making.—Lectures and laboratory work in the study of the composition of all classes of ceramic wares. Demonstration of the physical and chemical changes produced by the blending of the various ceramic materials. The machinery and processes employed in shaping the various products. II; (5). Mr. Stull.
- 6. GLAZES.—Lectures and laboratory work on the production of glazes and enamels, their classification, and the properties and defects common to each class. The effect of variation in composition and the modes of application. I; (5). Mr. Stull.
- 7. Ceramic Stoichiometry.—A course in calculation relating to the manufacture of bodies and glazes. II; (2). Mr. Knote.
- 8. Principles of Glass Manufacture.—Lectures on the raw materials, preparation, compounding, melting, and shaping of glass, including the discussion of the chemical principles involved in the manufacture and decoration of the different types of vitreous silicates. II; (3).

  Mr. Knote.
- 9. Ceramic Construction.—Plans, specifications, and estimates of ceramic construction. II; (5). Mr. Stull.
- IO. CEMENTS.—A course of lectures on limes, cements, plaster, sand-lime stone, and other cementing materials, giving special attention to composition, reactions, methods of manufacture and testing. *I*; (3).

  Mr. Knote.
  - 11. THESIS.—II; (5).
- 12. Designing and Shaping.—A course in technical designing and shaping from the standpoint of the manufacturer. Die construction, laying out of work, the use of templates, the making of master and working molds, pressing, casting, and jiggering. II; (3).

  Mr. Stull.
- 13. CEMENT LABORATORY.—A course in laboratory work devoted to the preparation of cementing substances and the study of their properties. Typical reactions involved in the manufacture and use

of lime, lime-sand products, pozzuolane, Sorel cement, natural and Portland cement are studied. Attention is given also to the behavior of the hardened products under the influence of the various agencies to which they are subjected in use. I; (3). Mr. KNOTE.

- 14. Continuation of Course 13.—Includes also the production of water proof and sea water resisting cements, the study of cement colloids, polychrome pigments for fresco decoration, cement colors, and cold water paints. II; (3).

  Mr. Knote.
- 15. Laboratory work in the preparation of glass silicates, such as soda-lime, potash-lime, lead, barium, and zinc silicates, and boro silicates. The properties of the fused and solidified glasses are studied with special reference to the practical problems of the glass industry. I; (3).

  Mr. Stull.
- 16. Continuation of Course 15.—In addition the study of opaque, colored, and optical glasses is taken up, as well as the subject of the enameling of metals, such as cast iron, sheet iron, and copper. II; (3).

  Mr. Stull.

Courses open to graduates of courses other than ceramics to be taken as minors: Ceramics 14, 5, 6, 7, 8, 10.

# COURSES FOR GRADUATES

The subject of silicates and the silicate industries offers a unique field for research, since there is probably no other field of technology which so needs the plow and harrow of the investigator. The problems to be solved are practically unlimited in number, and some branches represent indeed a terra incognita.

IOI. The theoretical principles underlying the formation of silicates are considered from the modern standpoint, involving the conceptions of physical chemistry. Lectures and laboratory work. Especially designed for graduates of this and other ceramic schools and for industrial chemists. I; (5). Mr. Stull.

102. Special problems relating to the technology of the clay industries. Some of the topics which may be selected are: Mineralogical constitution of clays, plasticity and the colloidal state, absorption, pyro-chemical and physical changes, exothermic and endothermic processes, the crystalline and amorphous state of burnt clay, thermal expansion of bodies and glazes, bodies and their interaction with glazes, the composition and constitution of glazes, dissolved and underglaze colors, translucency and opacity, the colors of rare oxides in glazes, eutectic studies, reduction and oxidation phenomena, heat radiation, and conduction. *I, II;* (5). Mr. Stull.

103. Special problems relating to the technology of the cement and mortar industries.

Topics: Fusion curves of lime, lime-iron, lime-alumina, and lime-iron-alumina silicates, the action of catalyzers, crystallization of basic silicates, constitution of cement compounds, hydration and dehydration, thermal studies, colloids of hydration products, white hydraulic cements, the factor of fineness of grain, pyro-chemical changes, etc. *I*, *II*; (5).

104. Problems relating to the technology of glass.

Topics: Fusion curves of glassy silicates, limiting compositions, solubility of the oxides in glasses, devitrification, annealing, optical properties, solubility of glasses, viscosity, thermal expansion, pyrochemical volume changes, reactions of coloring oxides, cooling curves, flashing, interaction between metal surfaces and glasses, oxidation and reduction, etc. *I, II;* (5). Mr. Stull.

## **METEOROLOGY**

See Physical Geography and Geology 14.

# MINERALOGY

See Geology 5, 5a, 6, 7, 7a.

# **PALEONTOLOGY**

See Geology 1, 9.

# THE BIOLOGICAL SCIENCES

# BOTANY

I. HISTOLOGY AND PHYSIOLOGY.—A study of the tissues and organs of plants and of the phenomena of nutrition, growth, and irritability. II; (5).

Assistant Professor Hottes, Mr. Knight, Miss Baldwin. Prerequisite: Entrance credit in Botany or Botany 11, Chemistry 1 or Physics 2a.

2. Morphology.—The general morphology and taxonomy of plants presented from the standpoint of evolution, including a study of selected types. Occasional field excursions.  $I_{ij}$  (5).

Dr. GLEASON.

Prerequisite: Entrance credit in Botany, or Botany 11.

Courses I and 2 taken together, either in the order of the numbers or the reverse, offer a general introduction to the science and a unified course for general students. Each semester's work is, however, independent, and may be separately credited.

3. Cytology and Physiology.—Lectures, laboratory work, and assigned reading. The course extends through the year, but the work of each semester is credited separately under the designations of 3a and 3b. The first semester is devoted mainly to cytology and histology, with special attention to technique; the second, to a study of the influences of external stimuli on growth and movement. *I*, *II*; (5). (See Course 14.)

Assistant Professor Hottes.

Prerequisite: Botany I.

4. TAXONOMY OF SPERMATOPHYTES.—Identification and classification of flowering plants, with especial reference to the flora of Illinois. Chief attention, in the laboratory, may be given to weeds, grasses, etc., of economic importance; for this, arrangements should be made in the preceding semester. Lectures, assigned reading, and laboratory work; field excursions until the close of the season. I; (5.)

Dr. GLEASON.

Prerequisite: Entrance credit in Botany, or Botany 11.

5. Bacteriology.—General principles of the science, methods of procedure, and a study of selected forms. Lectures, recitations, and laboratory work. *I, II;* (5). (Course given in the first semester is repeated the second.)

Professor Burrill, Dr. MacNeal, Mr. Briscoe.

Prerequisite: Chemistry I and one year's work in the University, including one semester in Botany or Zoology.

- 6. Bacteriology for Sanitary Engineers.—Bacteriological methods and their application in water analysis and sewerage. I, (last seven weeks); (2).

  Mr. Briscoe.
- 7. PLANT PATHOLOGY.—A study of the principal groups of parasitic fungi and plant diseases due to them, with methods of investigation and control. *I*, *II*; (5). Professor BURRILL

Prerequisite: Botany I, 2, 4.

8. Bacteriology.—A detailed study of selected species of bacteria or investigation upon assigned subjects. *I or II* (2-5).

Professor BURRILL.

Prerequisite: Botany 5.

9. Cytology and Physiology, Advanced Course.—Special laboratory problems in certain phases of cytology and physiology. Stu-

dents are required to meet for critical discussions of current literature and for reports on research work. I, II; (2-5).

Assistant Professor Hottes.

Prerequisite: Two years' work in Botany, including Botany 3.

- 10. Seminary.—Reports and discussions upon assigned topics and results of research work. For advanced and graduate students. *I*, *II*; (1). Professor Burrill.
- II. INTRODUCTORY COURSE.—Elementary work chiefly upon flowering plants, including their general structure and activities. The laboratory work is supplemented by field observations and by the study of text. The course is planned to offer general students an opportunity of gaining elementary knowledge of the vegetable kingdom. *I*; (5).

Assistant Professor Hottes, Mr. Knight, Miss Baldwin.

- \*12. Lectures and Demonstrations upon Bacteria.—An elementary course in which is presented the facts concerning the existence, size, form, life processes, and effects of bacteria and allied organisms, with special attention to those of economic importance, or of most common utility or detriment to man. I; second half; (1).

  Professor Burrill.
- 13. Forestry.—A study of forest trees and their collective influences; the principles and practice of forestry; forestry legislation and economics. Some as Horticulture 9. II; (2).

Professor BURRILL.

Prerequisite: Botany 4 or 11.

14. Lectures of Course 3a.—The plant cell: the physiology of its different constituents and the parts these play in the process of fertilization; various theories of heredity and of species formation I; (2).

Assistant Professor Hottes.

Prerequisite: One year's work in the University, including one semester in botany or zoology.

15. Teachers' Seminary.—A study of the teaching of botany in secondary schools; methods of instruction; laboratory equipment and material helps, pertinent literature; the teacher's preparation and duties. II; (1). Professor Burrill, Assistant Professor Hottes.

Prerequisite: At least one year of botanical work in the University or equivalent.

<sup>\*</sup>This course may not be counted for the degree of A. B. in the College of Literature and Arts.

16. TAXONOMY OF SPECIAL GROUPS.—Mostly laboratory and herbarium work, and assigned reading. The course extends through the year, but the work of each semester is credited separately under the designations of 16a and 16b. *I, II;* (5). Dr. GLEASON.

Prerequisite: Botany 4.

17. Ecology.—Ecological factors which control the distribution of plants, principles of plant association, and characteristics of some typical plant formations. Lectures and, after the season opens, field work on Saturday forenoons. *II*; (3). Dr. Gleason.

Prerequisite: Entrance credit in Botany or Botany 11.

18. Ecology.—Field and laboratory studies of selected areas, with assigned reading and lectures. The field work must be done wholly or in part during the preceding summer on an area approved by the instructor. *I, II, Summer Session*; (2-5). Dr. Gleason.

Prerequisite: Botany 4, 17.

19. Seminary in Ecology.—Reports and critical discussions of current literature and research work. I, II; (1). Dr. Gleason.

Prerequisite: Open only to students who have done or are engaged in ecological field work.

20. Ecology and Taxonomy.—Special problems upon individual assignments, dealing mainly with the plants of Illinois and vicinity. I, II; (2-5). Dr. Gleason.

Prerequisite: Botany 18 or 16, as selected problems require.

#### COURSES FOR GRADUATES

After at least one year of approved botanical work graduates may elect any of the courses 3, 5, 7, 8, 9, 10, 18, 19, or 20 for minor credit and any of courses 3, 7, 8, 9, or 18 and 19 (together), with assigned additions for major credit towards an advanced degree.

The following are open only to graduates of liberal botanical training upon consultation and may, upon approval, be elected for minor or major work.

- IOI. CYTOLOGY.—The influence of external agents on the cell. Special subjects for investigation are assigned upon consultation. Reports and discussions of current literature and research results. I, II.

  Assistant Professor Hottes.
- IO2. PHYSIOLOGY.—The effects of external stimuli on growth and movement. Special subjects for investigation are assigned upon consultation. Reports and discussions of current literature and research results. I, II. Assistant Professor Hottes.

- 103. Bacteriology.—Investigations upon morphologic and physiologic variation due to treatment; systematic studies upon the number, validity, and relationship of species, researches upon special saprophytic or parasitic kinds of bacteria and upon methods of favoring or combating their activities. *I, II.* Professor Burrill.
- 104. Bacteriology.—Special methods, intended to develop technical skill introductory to research upon pathogenic bacteria. (Same as Animal Husbandry 113.) II. Dr. MacNeal.
- 105. Bacteriology.—Investigations upon micro-organisms related to the animal body in health and disease. (Same as Animal Husbandry 114.) I, II. Dr. MacNeal.
- 106. VEGETABLE PATHOLOGY.—Diseases of plants and disease agents. Special subjects are assigned upon consultation. I, II.

  Professor Burrill.
- 107. ECOLOGY AND PHYTOGEOGRAPHY.—Investigations upon plant associations and phytogeographic relations of selected areas, based on approved field work. Reports and discussions. *I, II.*

Dr. GLEASON.

# BACTERIOLOGY

See Botany 5, 6, 8, 12, 103, 104, 105.

# ZOOLOGY

First-year students in zoology should usually take courses 10 and 2. Medical students should follow these with course 3. Course 10 may be taken alone by those desiring only a minimum acquaintance with zoology, to be followed with course 4 by those wishing, in addition, a general view of the main features of zoological theory.

In second-year work, four groups of courses are open to students—morphological, physiological, ecological, and theoretical. The especially morphological courses are 3, 6, and 7, The especially physiological courses are 16 and 19. The ecological courses are 5, 9, 17a, 17b, 17c, and 18. The purely theoretical courses are 4, 15, and 15a. Course 20 is of equal interest to students in all divisions of the subject.

Those preparing especially to teach zoology in the high school should follow courses 10 and 2 with courses 5, 17a, 17b, 4, and, if possible, 19. (See also under Entomology.)

10. Introductory Zoology.—This is a laboratory and lecture course, mainly on the morphology, physiology, and ecology of type

forms, and on the more important features of cytology and development. The work leads to an acquaintance with the simpler generalizations of zoological theory, and is a suitable preparation for course 2. Section A, for other than medical students. I, or II; (5). Section B, for medical students. I; (5).

Dr. Peters, Dr. Carpenter, Dr. Adams.

2. Vertebrate Zoology and Comparative Anatomy.—Lectures, text-book recitations, and laboratory work, mainly on the structure and functions of vertebrate organs. The lectures give the classification of the Chordata, an outline of the early stages of vertebrate embryology, and a brief description of the vertebrate tissues. Systems of organs are considered in respect to their anatomy, functions, ontogeny, and evolution in the vertebrate series. The laboratory work is arranged to meet the needs of medical students on the one hand and of general science students on the other. II; (5).

Prerequisite: An entrance credit in Chemistry or Chemistry 1; Zoology 10.

3. Vertebrate Embryology.—This course begins with a study of the sex cells, fertilization, and the early stages in the development of the egg. The formation of the organs of the vertebrate body and of the fetal membranes is then considered in detail, with lectures on the development of the chick, and assigned reading in a text-book of human embryology. The laboratory work includes the preparation of embryological material and the study of serial sections of chick and pig embryos. I, II; (3). Dr. Carpenter.

Prerequisite: Zoology 10 and 2.

4. ZOOLOGICAL THEORY.—Lectures and assigned readings on the facts, problems, and theories of evolution and development, and the related topics of variation, heredity, and selection. II; (3).

Associate Professor Smith, Assistant Professor Folsom.

Prerequisite: Zoology 10.

5. Animal Behavior.—Lectures and demonstrations on the reactions of the lower animals to external stimuli. The results of experimental work on the influence of light, heat, gravity, chemical subtances, etc., are considered with reference to the habits of animals in their normal environment. The course will include such studies of sense organs and adaptive structures as may be necessary. I; (2).

Dr. Carpenter.

Prerequisite: Zoology 10, or Psychology 1. [Not given in 1908-00.]

6. MICROSCOPICAL TECHNIC.—This course is intended to make students familiar with special methods of zoological technic, including the theory and practice of fixation, sectioning, and staining tissues for cytological study, and the laboratory methods used in zoological research. *I*; (3). [Not given in 1908-09.]

Prerequisite: Zoology 10 and 2.

7. The Structure and Functions of the Vertebrate Nervous System.—Lectures and laboratory work on the structure of the vertebrate nervous system, including a study of the grouping and chaining of the neurones to form the central and peripheral nervous organs; of the nervous impulse; of the stimulation of the sense organs, and of various reflex actions. The work will include dissections, practice in the preparation of nervous tissues for the microscope, and experimental physiological work. II; (3).

Dr. CARPENTER.

Prerequisite: Zoology 10.

9. ZOOLOGICAL ECOLOGY.—This course is intended as an introduction to the study of the relation of animals to their natural environment as illustrated by the local fauna. Field trips are made for a study of the animals and the conditions under which they live, and for instruction in methods of observation and the making of notes and collections. In the laboratory the specimens collected are observed and determined, reports are prepared, and a working knowledge of the literature is acquired. Principal attention is given to insects, mollusks, reptiles, amphibians, and fishes. II; (5), arrange hours.

Dr. Adams.

Prerequisite: Zoology 10.

15. Variation and Heredity.—A course of lectures and reference reading designed to give a general survey of the results obtained by modern methods of studying variation and heredity. For accompanying laboratory work see 15a. I; (2).

Associate Professor Smith.

Prerequisite: Zoology 10.

15a. Statistical Data.—Laboratory work involving the collection of data suitable for a study of the variations and correlations of structure in some suitable organism may be elected in connection with Course 15. The extensive collections of insects, fishes, and plankton material in the possession of the State Laboratory of Natural History are available for the purpose of this course. *I*; (3).

Associate Professor Smith.

Prerequisite: Zoology 10.

16. Chemical Zoology.—This course deals with those chemical conditions of protoplasm which are more or less common to all living matter. Biological processes are studied from the point of view of the chemical principles which underlie them. Lectures, laboratory, and assigned reading. Either semester's work may be taken separately. *I*, *II*; (3 to 5).

Dr. Peters.

Prerequisite: Zoology 10, one year of chemistry.

17a. FIELD ZOOLOGY.—A course whose main object it is to gain as comprehensive a knowledge as practicable of the animal life of a restricted locality. Collection, preservation, and identification of various kinds of animals, together with observations of the habits, life histories, and relations to environment of selected forms, constitute the major part of the work. I; (3).

Associate Professor Smith.

Prerequisite: Zoology 10.

\*17b. FIELD ORNITHOLOGY.—A course especially designed to give an acquaintance with the birds of the vicinity. Identification, food relations, seasonal distribution, and migration activities receive chief attention. Students should provide themselves with opera or field glasses. II; (2).

Associate Professor SMITH.

17c. ADVANCED FIELD ZOOLOGY.—This course is a continuation of 17a and 17b, and provides an opportunity for the study of a taxonomic, distributional, or ecological problem. I, II; (3 to 5).

Associate Professor Smith, Dr. Adams.

18. MICROSCOPIC ORGANISMS.—A course on the minute aquatic life of fresh water, with special reference to sanitary problems. *I*; (5).

Dr. Peters.

Prerequisite: Zoology 10.

19. Physiological Zoology.—This course will deal with the general principles of animal physiology as illustrated by the zoological groups. The nutritive, formative, and sensori-motor processes, will be studied with special reference to the cellular activities involved, and to the general principles common to protoplasmic processes. Laboratory work may be done by arrangement with the instructor. *I*, *II*; (3 or 5).

Prerequisite: Zoology 10; Chemistry 1. [Not given in 1908-9.]

20. Current Literature.—The instructors and advanced students of the department will meet at stated intervals as a journal

<sup>\*</sup>Zoology 17b may not be counted as a part of the minimum requirement in science in the College of Literature and Arts.

club for the presentation and discussion of the results of recent zoological investigation. This course is open to all qualified students of zoology, and should be taken by those intending to graduate with a thesis. *I*, *II*; (1).

Prerequisite: One year of Zoology.

8. Thesis Investigation.—Candidates for graduation who select a zoological subject as a thesis are required to spend three hours a day during their senior year in making a detailed investigation of the selected subjects. While this work is done under the general supervision of an instructor, it is in its methods and responsibilities essentially original work. *I*, *II*; (5).

Professor Forbes, Associate Professor Smith, Dr. Peters, Dr. Carpenter, Dr. Adams.

Prerequisite: Two years in zoological courses.

## COURSES FOR GRADUATES

After at least one year of zoological work, graduates may elect any of the courses 3, 4, 6, 7, 9, 15, 15a, 16, 17a, 17c, 18, 19, and 20. The following are open to graduate students only:

- 103. General Embryology.—Lectures, conferences, and laboratory work. The lectures will deal with general embryological topics in advance of those treated in Zoology 3. The laboratory work will consist of a study of the early development of invertebrate types. II; (Lectures 2 hours weekly; laboratory 8 hours weekly.) [Not given in 1908-9.]
- 115. Variation and Heredity.—A course which includes lectures on the methods and results of recent investigations in the study of variation and heredity, with assigned problems requiring individual work. *I*; (3 to 5 times a week).

Associate Professor Smith.

- TIG. CHEMICAL ZOOLOGY.—Laboratory work, a study of literature, and conferences. This course includes an investigation of a biochemical problem dealing with enzymes or with the related topics of carbohydrate and protein metabolism. I, II; (Daily).

  Dr. Peters.
- 117. FAUNISTIC ZOOLOGY.—Problems in taxonomy, distribution, or ecology, selected from the field of the zoology of the state. These studies will be accompanied by field work, conferences, and lectures. Unusual opportunities are given for a study of the

species, distribution, habits, and ecology of the mammals, birds, and fishes of this state. See also Entomology 103. *I*, *II*; (3 to 5 times a week).

Professor Forbes, Associate Professor Smith, Dr. Adams.

119. Physiological Zoology.—Conferences, study of literature, and laboratory investigation on one of the following topics: (a) the general physiological relations between the cell and its liquid medium: The application of the theories of crystalloidal and colloidal solution to biological problems of a general character; (b) the physiology of the Protozoa, including the relation of these organisms to sanitary and pathological problems. *I, II; (Daily)*.

Dr. Peters.

121. INDIVIDUAL RESEARCH COURSE.—a. Systematic, faunistic, and ecological zoology.

Professor Forbes, Associate Professor Smith, Dr. Adams.

- b. Chemical and physiological zoology. Dr. Peters.
- c. Vertebrate and invertebrate embryology. Dr. Carpenter.
- d. Structure and development of the nervous system. Animal behavior. Dr. Carpenter.

See also Entomology.

## ENTOMOLOGY

Entomology as taught at the University is a differentiated part of the work of zoology. Those preparing for service as economic entomologists should take, if possible, all the courses offered except Course 5. Students preparing for the teaching of zoology should take either 2 and 4, or 3 and 4, or, if possible, all three of these courses.

2. General Entomology.—This course and Entomology 3 form a year's connected major work in entomology, covering substantially the whole field. The present course is devoted mainly to field entomology and to the morphological and physiological aspects of the subject. It includes the collection and preservation of specimens, the making of field observations, laboratory studies of typical insects, with special reference to adaptive structures, and their exact utilities. *I*; (5). Assistant Professor Folsom.

Prerequisite: Zoology 10 or Entomology 4.

3. GENERAL ENTOMOLOGY,—To be taken either with or without the preceding course. The classification and determination of insects, the study of life histories in the insectary and by field ob-

servation, and the collection of information with respect to the ecological relations of insects, are the principal objects of this course. II; (5).

Assistant Professor Folsom.

Prerequisite: Zoology 10.

- 4. Introduction to Economic Entomology.—Intended especially for students in the College of Agriculture. A lecture, field, and laboratory course acquainting the student with the general principles and essential elements of economic entomology. This course may be followed by one or more special courses corresponding to the subdivisions of the departments of agriculture and horticulture, and to be taught in connection with them. I: first half; (2½).

  Assistant Professor Folsom.
- 5. Advanced Entomology,—Under this head students desiring advanced work in entomology, especially as a preparation for thesis work in this subject, are individually provided for on consultation with the instructors. The course may be made to cover one or two semesters and to earn a three-hour or a five-hour credit in each. At least a three-hour course for one semester will be required as a preparation for entomological thesis work. *I, II;* (3 to 5).

Professor Forbes or Assistant Professor Folsom.

Prerequisite: Entomology 2 and 3.

# PHYSIOLOGY

I. HISTOLOGY.—This course consists of a study of the fundamental mammalian tissues, and the microscopic anatomy of the organs. It entitles the student to full medical credit in histology. Lectures and laboratory daily 10-12. *I*; (5).

Assistant Professor McClellan, Dr. Stanley.

Prerequisite: Physics 2a; Chemistry 1, 2, 3, 5a, 9, 9c; Zoology 2, 3.

2. Major Course.—This course will include a study of the physiology of nerve and muscle, circulation, respiration, secretion, digestion, metabolism, etc., etc., entitling student to full credit in physiology in the medical school. Lectures and laboratory work daily 8-12. II; (10).

Assistant Professor McClellan, Dr. Stanley.

Prerequisite: Same as for Physiology 1.

3. UNDERGRADUATE THESIS.—This course is offered to undergraduates who wish to take a thesis course.

4. MINOR COURSE.—Especial emphasis is laid upon those facts that serve as a basis for practical hygiene, and for helping students to teach physiology in high schools. Lecture demonstrations, recitations, and laboratory work. Students who have had chemistry and zoology in high schools only, may be admitted to the course at the option of the instructor. II; (5).

Dr. Zoethout, Dr. Stanley.

Prerequisite: Chemistry 1; Zoology 10 or 1.

- 5. Special Physiology.—This course is given to meet an emergency, which sometimes arises, where a student wishes to take up a special line of work not specified in one of the other courses, and not involving the preparation of a thesis. At the discretion of the head of the department students may register for such work. Arrange details with the instructor.
- 6. HYGIENE.—This course must be taken by young women who take physical training for credit. The course deals with those practical hygienic questions of everyday life that are wholly or in large part under the control of each individual. *I*; (1).

Mrs. Lincoln, Dr. Kollock.

#### COURSES FOR GRADUATES

103. RESEARCH.—Every facility and encouragement, so far as the resources of the laboratory and library permit, are offered to those prepared to avail themselves of these, for researches as part of the work for the master's or the doctor's degree, or for carrying on original work for publication.

# Assistant Professor McClellan.

III. PHYSIOLOGICAL JOURNAL CLUB.—This club is composed of the teaching staff of the department, the graduate students, and such undergraduates as are sufficiently advanced to participate. Recent articles of interest in current journals will be reported and discussed. This will give the student practice and confidence in presenting a condensed synopsis of a subject before a meeting. Each student will have to report a paper about once in two months. Time will be arranged, as far as possible, to suit the convenience of members of the club.

# HOUSEHOLD SCIENCE

I. PRINCIPLES OF THE SELECTION AND PREPARATION OF FOOD.—
The nature and uses of food, its chemical composition, and the changes effected by heat, cold, or fermentation. Practical illustrations of the principles of selection are given by marketing expeditions. Some of the processes of the manufacture of food are considered, as well as the combinations of different kinds. II; (3).

Assistant Professor Van Meter, Miss Pincomb.

Prerequisite: Entrance credit in Physics; Chemistry 1.

- 2. Home Architecture and Sanitation.—The situation, surroundings, and construction of the house; the hygiene of the home; heating, lighting, ventilation, water supply, and drainage. Lectures on house planning, with exercise in making skeleton plans, and on sanitary plumbing and fixtures and internal drainage. I; (2).

  Professor Bevier, Professor White, Mr. Clark.
- 3. ELEMENTARY HOME DECORATION.—A continuation of Course 2. Lectures on the evolution of the house and the homes of primitive peoples, the theory of color and its application in home decoration. The evolution of the home, furnishings from a sanitary and artistic standpoint. II; (2). Professor Bevier, Professor Ricker.

Prerequisite: Art and Design 1, Architecture 41, and Household Science 2.

4. Food and Nutrition.—An application of the principles of pure science to the problems of food and nutrition. The problems may be physiological, chemical, or bacteriological. Each student investigates some particular problem. *I*; (5).

Professor Bevier, Assistant Professor Usher.

Prerequisite: Botany 5; Chemistry 1, 2 and 3, 13a, 9 and 9c; five hours in Botany or Zoology; Household Science 1, 6, 5.

5. DIETETICS.—The work in dietetics includes the following topics: The principles of diet; the relation of food to health; influence of age, sex, and occupation on diet, the construction of dietaries; dietetic treatment of certain diseases; principles of home nursing. Laboratory practice is given in the course. II; (3)

Assistant Professor USHER.

Prerequisite: Household Science 1, 6; Physiology 4.

6. Economic Uses of Food.—This course is a continuation of Course 1. Emphasis is put upon the economic side of the food

question. The uses and applications of preservatives are consid-Assistant Professor VAN METER. ered. I; (3).

Prerequisite: Household Science 1.

7. Textiles.—The development of primitive industries, production of fibres used in textile manufacture. Practice is given in judging cloth and in the application of the principles of selection of color and design in costumes. I; (2). Miss GIRRS

Prerequisite: Plain sewing.

12. HOUSEHOLD ART.—A continuation of Course 7. Materials suitable for various uses in home and in clothing; consideration of texture, of quality, of design in relation to form; of color in relation to environment and personality; hygienic properties and Miss Girbs. cost. II; (3).

Prerequisite: Household Science 7; Art and Design 1; Archi-

tecture 41.

9. Seminar.—A study of various topics of home economics and individual problems in some one of these topics. II; (3).

Open to seniors only.

10. HOUSEHOLD MANAGEMENT.—This course deals with the organization of the household; expenditure of income; care of the house and family, including the cleaning of metals, woods, fabrics, and other essentials of a well ordered home. I: (2).

Assistant Professor VAN METER.

Open to juniors and seniors.

Prerequisite: Household Science 1, 6, 5; Economics 1.

II. TEACHERS' COURSE.—This course is designed for the prospective supervisor of the subject, or teacher in the graded schools. It aims to show the best method of presenting the work, and its correlation with other subjects. Practice is afforded in planning such courses, and some opportunity for presenting them. II; (2).

Professor Bevier, Miss Pincomb.

Open to seniors.

Prerequisite: Household Science 1, 2, 3, 5, 6, 7, 12, 13.

13. HISTORY OF HOME ECONOMICS.—This course aims to make the student intelligent concerning the origin and development of home economics. It includes a study of the work in various types of institutions, and the planning of courses for these types. I; (1). Professor Bevier

Open to juniors and seniors.

#### COURSES FOR GRADUATES

- 101. Home Economics.—A study of the origin and development of home economics, with particular reference to its industrial, educational, and sociological aspects.

  Professor Bevier.
- 102. Special Investigation.—Problems in the application of the principles of bacteriology, chemistry, and physiology, to the ordinary processes used in the preparation of food.

Professor Bevier.

# **ENGINEERING**

# ARCHITECTURE

2. Woop Construction.—The growth, cutting, seasoning, working, and finishing, structural, and decorative properties of wood. The proper use of wood in buildings is developed by detailing at a large scale various parts, such as floors, walls, roofs, doors, windows, cornices, stairs, wainscoting, cabinet work and internal finish. These are extended by detail sketches of similar work in process of actual construction. Kidder's Building Construction, Part Two. 1; (3).

Mr. PROVINE.

Prerequisite: General Engineering Drawing, 1, 2; Mathematics 2, 4.

3. Masonry and Metal Construction.—Foundations; materials employed in stone masonry. Kinds of masonry and external finish. Tools for stone cutting and their use. Brick masonry, its materials and bonds. Terra cotta design, manufacture, and use. Manufacture and refining of cast iron, wrought iron, and steel. Special properties and value of metal in a structure. Detailing of a line of columns, beams, girders, and footings, with the study of joints and connections. Kidder's Building Construction and Superintendence, Part One. II; (3).

Prerequisite: General Engineering Drawing, 1, 2; Mathematics 2, 4.

4. Sanitary Construction.—Recitations and lectures, designs for special problems. Study of plumbing, trap ventilation, removal of wastes, construction of water closets, drains, and systems of water supply; sewage disposal. Water supply and fixtures in dwellings. Cosgrove's Principles and Practice of Plumbing. Lectures on Sewage Disposal. 1; (2).

Mr. Clark.

Prerequisite: Physics 2a, 2b; Architecture 2, 3.

5. Graphic Statics and Roofs.—Elements of graphic statics and applications in designing trussed roofs. Forces, equilibrium, reaction, moments, bending moments, and shears on beams; center of gravity, moment of inertia and kern of cross sections. Construction of wooden and metallic roofs, mode of computing loads on roof trusses, obtaining end reactions, drawing strain diagrams, and determining sectional dimensions of members, with the designing of joint connections. Sondericker's Graphic Statics. II; (4).

Mr. CLARK, Mr. PROVINE.

Prerequisite: Mathematics 2, 4, 6; Theoretical and Applied Mechanics 4, 5, or 6, 7, 8, 9.

6. HISTORY OF ARCHITECTURE.—Taken with Architecture 7 and II. Commencing with Egyptian and ending with modern styles, a study is made of the important styles, historical conditions, local and inherited influences, structural materials and system, ornaments, purposes, and designs of the buildings, with typical examples of each style. Especial attention given to ideas useful or suggestive in American work, and to tracing the evolution of architectural forms. Three illustrated lectures and one quiz each week. Tracings of details, chronological lists, synopses of styles, and lecture notes are required. Fletcher's History of Architecture, 5th Edition. I, II; (4).

Prerequisite: General Engineering Drawing 1, 2; Architecture 2, 3.

7. HISTORIC ORNAMENT.—A study of the most important details of the Grecian, Roman, Early Christian, Byzantine, Mohammedan, Romanesque, Gothic, and Renaissance styles. Lectures and drawing. Meyer's Handbook of Ornament. II; (2).

Professor Wells, Mr. Kelley.

Prerequisite: Architecture 2, 3, 8.

8. The Orders of Architecture.—A study of the Five Orders of Architecture, their proportions and details, and of architectural shades and shadows, by means of lectures, recitations, blackboard sketches from memory, and problems requiring the use of an order. Ware's American Vignola; Lectures on Shades and Shadows. II;

(3). Mr. Kelley.

Prerequisite: General Engineering Drawing 1; Architecture 20.

9. MONTHLY PROBLEMS.—An entire day in each month during the second, third, and fourth years is devoted to a problem in design. The program is made known at the beginning of the exercise, and sketches must be completed and rendered during the same day.

Credit is given for this study only after the completion of each year. I, II; first Saturday in each month, all day; (1/2 for each semester).

Assistant Professor Case, Mr. Kelley.

Prerequisite: General Engineering Drawing 1, 2; Architecture 8.

10. Working Drawings.—Conventional methods for representing the different parts of buildings in general and in detail, conventional colors and sections; systems of lettering and figuring drawings; working drawings; tracing of drawings, methods of reproducing drawings. II; (2).

Mr. Clark.

Prerequisite: Architecture 2, 3, except for students in Ceramics.

- II. ARCHITECTURAL SEMINARY.—Original investigations of assigned topics in History of Architecture; reviews of architectural books, abstracts of current technical journals, and other publications. Taken with Architecture 6. *I, II;* (1). Professor RICKER.
- 12. Superintendence, Estimates, and Specifications.—The duties of a superintendent, his relations to architect, owner, and contractor, the method of supervising work, systems of keeping building accounts, the usual methods of measurement of materials and work, arrangement of computations, and approximate prices of material and labor. The methods of estimating are employed and illustrated by problems. Specifications, their arrangement, methods of classifying material. Practice is obtained by writing several sets for given structures. Richey's Handbook for Superintendents. II; (3).

  Professor White.

Prerequisite: Architecture 2, 3, 4.

13. Heating and Ventilation.—Scientific theory and practice of warming and ventilating buildings is the object of this study. Different systems of heating, sources of impurity in the air, and requirements of good ventilation are considered. Numerous problems are given, and heating plants designed. King's Heating and Ventilation; Ricker's Notes on Heating and Ventilation. I; (4).

Professor White, Mr. Clark.

Prerequisite: Architecture 2, 3, 4, 15; Physics 2a, 2b.

14. Architectural Perspective.—Theory of perspective is taught with labor-saving methods of abbreviating work, and designing in perspective is made a special aim. Problems in angular, parallel, vertical, and curvilinear perspective, as well as in perspective shades and shadows, are solved. Ware's Modern Perspective. I; (2).

Mr. CLARK.

Prerequisite: General Engineering Drawing 1, 2.

15. REQUIREMENTS AND PLANNING OF BUILDINGS.—A study of the requirements which must be considered successfully to plan schools, churches, libraries, theatres, hospitals, and other usual types of buildings. Numerous problems in planning are given. II; (3).

Mr. CLARK.

Prerequisite: General Engineering Drawing 1, 2; Architecture 2.

16. RESIDENCE DESIGN.—Practice in design and study of the requirements for dwellings. The work is limited to residences, since this class of buildings is likely to afford the graduate his first opportunity for independent original work. Lectures and drawing. II;

(2). Assistant Professor Case.

Prerequisite: Architecture 2, 3, 8.

17. Architectural Designing.—Simple problems in design are solved by sketch plans, elevations, and sections, rendered as required. The object is to obtain as much practice in design as possible, and the course serves as an introduction to senior work in design. II; (3). Assistant Professor Case.

Prerequisite: Architecture 6, 7, 8, 9, 11, 18, 20.

18. ARCHITECTURAL COMPOSITION.—A careful study is made of the laws of architectural design and of the results of experience. General principles, proportions employed in most important styles, arrangement of plan, external design in general detail, ceilings, and interior arrangement of corridors, stairways, and entrances, of internal courts, and of halls for large assemblages. Problems in design. Robinson's Architectural Composition, second edition. I; (3).

Assistant Professor Case.

Prerequisite: Architecture 6, 7, 8, 9, 11, 20.

19. ARCHITECTURAL ENGINEERING.—This continues the study of graphic statics commenced in course 5, with application to the analysis of metallic roofs of wide span, roof trusses of curved or unusual form, and those supported by abutments and jointed, spherical and conical trussed domes, the stone arch, vault, and dome, and of the Gothic system of vaults and buttresses. The strength of walls, dams, retaining walls, and large chimneys; the effect of moving loads on girders; and the construction and details of steel skeleton buildings. Problems in design for specified cases. Ricker's Notes on Architectural Engineering; Tucker's Steel Construction. I, II; (3).

Prerequisite: Mathematics 2, 4, 6, 7, 9; Theoretical and Applied

Mechanics 6, 7, 8, 9; Architecture 2, 3, 5.

- 20. Free-hand Drawing.—Any courses offered in Art and Design amounting to three semester hours. Arrange hours. I, II;
  (3). Assistant Professor Lake.
- 22. Renaissance Design.—A study of architectural design applied to large problems. *I;* (3). Assistant Professor Case. *Prerequisite:* Architecture 6, 8, 9, 11, 17, 18.
- 23. MEDIAEVAL DESIGN.—A prescribed series of tracings of important details of Romanesque and Gothic architecture is made, and problems in construction and design are worked out as fully as time permits. Lectures. *I*; (3). Assistant Professor Case. *Prerequisite*: Architecture 6, 7, 9, 11, 17, 18, 20.

25. Design of Ornament.—The study of the design of architectural ornament for decorating the structural forms usually found in practice. These designs will be to scale, with full-sized details.

Lectures. I; (3). Professor Wells. Prerequisite: Architecture 6, 7, 8, 11, 17, 18, 20.

27. Domestic Architecture.—Instruction in this subject will be given only in connection with courses in Household Science 2 and 3.

Professors Ricker and White, Assistant Professor Case, Mr. Clark.

28. MURAL DECORATION.—Includes the study and analysis of some of the best examples of modern decorated interiors; the appropriate use of various materials; the rendering of scale drawings in color with especial reference to the esthetic effect produced by various harmonies of color. *I*, *II*; (2). Professor Wells.

Prerequisite: Architecture 7, 8, 9 (1 year), 20; General Engineering Drawing 1.

- 29a. Short History of Architecture.—(Elective for students in the College of Science or of Literature and Arts.) A careful study of the important historical styles of architecture, their origin, systems of construction, elementary forms, decoration by sculpture and painting, chief kinds of buildings, and a series of selected examples, illustrated by lantern slides. Note-books and additional readings are required. One weekly lecture with the reading of Reinach's Apollo. History of Architecture. I, II; (1). Professor RICKER.
- 29b. HISTORY AND CRITICISM OF ART.—A course of illustrated lectures supplemented by readings, devoted to a critical analysis of the development of beauty through the historic epochs, especially of sculpture, painting, and the minor arts. *I, II;* (1).

Professor Wells.

30. Thesis.—The preliminary work on the thesis must be commenced during the first semester. In the second semester a regular time is assigned on the program for this work, but the amount of time so prescribed shall not be considered to be the total thesis requirement. I. II.

Professors RICKER, WHITE, WELLS, Assistant Professor Case.

31. ARCHITECTURAL READINGS.—Designed to impart a knowledge of French or German architectural terms to those students who elected either of these languages in the freshman year. Students who elected English take Architecture 29b in lieu of this course. French: Reading of LaLoux's Architecture Grecque; Palustre's Architecture de la Renaissance. German: Reading of Nohl's Tagebuch einer Italienischen Reise. I, II; (1). Professor RICKER.

Prerequisite: Architecture 6; French or German for at least

one year.

32. Water Color Rendering.—Exercises in the practice of the different technical methods of rendering architectural drawings and designs. *I*; (1). Mr. Kelley.

Prerequisite: General Engineering Drawing 1; Architecture 8, 9 (1 year), 20, 35.

33. Rendering of Ornament.—Exercises in rendering full-sized details of relief ornament and of sculpture for architectural decoration. *I*; (1).

Mr. Kelley.

Prerequisite: General Engineering Drawing 1; Architecture 6; 9 (1 year), 20, 35.

- 34. ARCHITECTURAL ENGINEERING SEMINARY.—Reports on and discussions of current literature germane to architectural construction. Taken with Architecture 19. *I*; (1). Professor White. *Prerequisite*: Architecture 2, 3, 4; Theoretical and Applied Mechanics 6, 7, 8, 9, 10; with Architecture 19, first semester.
- 35. Perspective Sketches.—Rendering of scenic effects and views in water colors, comprising skies, distance, trees, foliage, shrubbery, and foreground details. The class will practice out-door sketching when the weather permits. I; (1). Mr. Kelley.

Prerequisite: General Engineering Drawing 1, 2; to be taken with Architecture 14.

36. Bases of Ornament.—Analysis of the principles of design as they are exemplified in the forms and colors found in nature. The class will work in the fields, forestry, gardens, orchards, hothouses, and museums of the University, and make studies showing the elements of proportion, symmetry, order, and harmony of com-

position and color, together with the relative size of those mineral, plant, and animal forms which lend themselves to the purposes of decorative design. *I, II;* (2). Professor Wells.

Prerequisite: Art and Design 1.

37. Monumental Inscriptions.—This course includes practice in the designing of suitable letters and decorative embellishments for tablets, memorials, and mural inscriptions. II; (1).

Professor Wells.

Prerequisite: Art and Design 1.

- 38. ARCHITECTURAL LABORATORY.—Work in the various architectural arts taught in the department will be executed from original designs produced by the students in their class rooms. No student will be admitted to the studio work until he shall have produced a design worthy of execution. I, II; (3). Professor Wells. Prerequisite: Art and Design 1, 3; Architecture 7, 36.
- 40. Analysis of Pattern.—A study is made of those principles which apply to the various methods of designing geometrical ornament. The various diagrammatic foundations found in historic ornament will be analyzed, and original problems worked out along similar lines. Lectures and drawings. II; (3). Professor Wells. Prerequisite: Art and Design 1, 3; Architecture 36.
- 41. Color Problems.—A general exposition of the theory of color as applied to decoration. Examples of color harmony as found in nature and in art will be analyzed, and original problems, applicable to stained glass, mosaic, fabrics, and general interior decoration and color scheming will be required. Lectures and drawing. *I*; (2).

  Professor Wells.

Prerequisite: Art and Design 1, 3; Architecture 36, 40.

#### COURSES FOR GRADUATES

- 101. Architectural Construction.—This may include a study of large wooden buildings, the uses of stone and certain ceramic products in buildings, steel frame buildings, fireproofing buildings, slow-burning buildings, or of plain and reinforced concrete buildings, or of a combination of these.
- 102. THE SANITATION OF BUILDINGS.—This may include the arrangement of public buildings with reference to sanitation, systems of heating and of ventilation, or of systems of electric wiring and lighting, or of a combination of these.
- 103. Architectural Drawing.—This may include advanced graphic statics, stereotomy, advanced perspective, or advanced water-color painting, or a combination of these.

- 104. ARCHITECTURAL DESIGN.—This may include a study with practice covering the evolution of architectural styles, advanced architectural design, applied esthetics, or of industrial design, or of a combination of these.
- 105. Architectural Practice.—This may include the translation of some selected architectural book, indexing and classification of data, architectural photography, methods of reproducing drawings and specifications, preparation of specifications and estimates for large buildings, office arrangement and methods, or a combination of these.

# CIVIL ENGINEERING

I. ROADS AND PAVEMENTS.—The value and importance of road improvement in country highways and the best means of securing it are considered, together with the principles and details of construction of earth, gravel, and macadam roads. In regard to city streets, the methods of construction, cost, durability, and desirability of the various kinds of pavement, and the question of grades, cross-sections, methods of assessment of cost, and methods of maintenance and cleaning are treated. Baker's Roads and Pavements. II; (2).

Mr. SLIPPY.

Prerequisite: Mathematics 4; General Engineering Drawing 1, 2; Civil Engineering 21, 22, 23.

4. RAILROAD ENGINEERING.—In the field practice the class makes preliminary and location surveys of a line of railroad of sufficient length to secure familiarity with the methods of actual practice. Each student makes a complete set of notes, maps, profiles, calculations and estimates. The principles of economic location and the construction of railways are considered. A study is made of railway appliances and of maintenance-of-way practice. Allen's Railway Curves and Earthwork; Talbot's Transition Spiral; Tratman's Track. I; 5.

Mr. Parker, Mr. Slippy, Mr. Smith.

Prerequisite: Civil Engineering 21, 22, 23.

- 4a. RAILROAD ENGINEERING.—The first eleven weeks of Course 4. for students in municipal and sanitary engineering. (3).
- 5. MASONRY CONSTRUCTION.—In addition to text-book work the students have experiments in the cement laboratory. Baker's Masonry Construction. I; (5).

Assistant Professor SANBORN, Mr. RICHEY.

Prerequisite: Theoretical and Applied Mechanics 7, 8, 9, 10.

6. MASONRY AND REINFORCED CONCRETE DESIGN.—The design of masonry and reinforced concrete structures. II; (2).

Associate Professor Brooks, Mr. Smith.

Prerequisite: Civil Engineering 5.

10. Surveying.—For students in the courses of architecture, architectural engineering, electrical engineering, and mechanical engineering. Areas with chain and compass, U. S. public land surveys, and principles of re-establishing corners; use of transit in finding distance, areas, and in laying out buildings; use of the level in finding profiles and contours. Pence and Ketcham's Surveying Manual; Baker's Engineers' Surveying Instruments. II; (2).

Mr. PARKER, Mr. SLIPPY, Mr. SMITH.

Prerequisite: Mathematics 4; General Engineering Drawing 1, 2; Physics 1, 3.

12. Bridge Analysis.—Instruction and practice are given in the computation of the stresses in the various forms of bridge trusses, by algebraic and graphical methods, under different conditions of loading. Merriman and Jacoby's Roofs and Bridges, Part Two; Dufour's Bridge Engineering, Part One. 1; (2).

Assistant Professor Dufour.

Prerequisite: Theoretical and Applied Mechanics 7, 8, 9, 10; and for civil engineering students, Civil Engineering 19 and 20, and for architectural engineers, Architecture 5.

13. Bridge Details.—The student makes a tracing of a shop drawing of a bridge, then makes a critical report upon each element of the design, and computes the cost of the bridge. Afterward a comparative study is made of the several forms of details employed by leading designers.  $I_{\tau}$  (3).

Assistant Professor Dufour, Assistant Professor Malcolm.

Prerequisite: Civil Engineering 12 and free-hand sketches, with dimensions, showing full details of a bridge measured by the student.

14. Bridge Design.—Each student designs a railroad plate girder and a truss span, proportioning the sections and working out the details, and afterward makes a complete set of drawings. *Dufour's Bridge Engineering, Part Two. II;* (5).

Assistant Professor Dufour, Assistant Professor Malcolm. Prerequisite: Civil Engineering 12, 13.

14a. Bridge Design.—Part of Course 14 above, for municipal and sanitary engineering students. II; (3).

15. ADVANCED BRIDGE ANALYSIS.—The computations of stresses and deflections of continuous, draw, cantilever, suspension, and metal-arch bridges; and also the investigation of the statically-indeterminate stresses of framed structures. Merriman and Jacoby's Roofs and Bridges, Part Four. II; (2).

Assistant Professor Dufour.

16. ENGINEERING CONTRACTS AND SPECIFICATIONS.—A study is made of the fundamental principles of the law of contract, and of examples of the general and technical clauses of various kinds used in engineering specifications. Johnson's Engineering Contracts and Specifications. II; (2).

Assistant Professor Sanborn.

Prerequisite: Civil Engineering 5, 12, 13; Municipal and Sani-

tary Engineering 2, 3.

18. Tunneling.—A study is made of the principles of tunneling, and of the methods employed in constructing the more noted tunnels. Stauffer's Modern Tunnel Practice. 1; (1).

Associate Professor Brooks.

Prerequisite: Mechanical Engineering I, II; Chemistry I; Physics I, 3; Theoretical and Applied Mechanics 7, 8, 9, 10; Civil Engineering 5, 12, 13, 14.

20. Graphic Statics.—Elements of graphic statics and applications in designing structures. *Malcolm's Elements of Graphic Statics*. II; (2). Assistant Professor Malcolm.

Prerequisite: Mathematics 2, 4, 6; Theoretical and Applied Mechanics 7, 8, 9, 10; General Engineering Drawing 1, 2.

21. Surveying.—Recitations, lectures, field and office work in the theory, use and adjustment of the compass, level transit, plane table, and sextant. Problems are assigned in the relocation of the boundaries, partition of land, interpretation of deeds, and in city and farm surveying. Tracy's Plane Surveying; Pence and Ketcham's Surveying Manual. I; (5).

Mr. Richey, Mr. Wiley, Mr. Pickels, Mr. Albright.

Prerequisite: General Engineering Drawing 1, 2; Mathematics 4.

22. Topographic Surveying.—The theory and use of the stadia and other instruments used in making a topographic survey are considered, as are also the methods of topographic surveying. Some time is given to topographic drawing. A complete topographic survey based on a system of triangulation is executed, including the calculations, and platting and completing the map. Some attention

is given to the precise measurement of bases and angles. Tracy's Plane Surveying; Pence and Ketcham's Surveying Manual. II; (4).

Mr. RICHEY, Mr. WILEY, Mr. PICKELS, Mr. ALBRIGHT.

Prerequisite: Civil Engineering 21; General Engineering Drawing 1, 2; Mathematics 4.

23. RAILROAD CURVES.—A study is made of the geometry of the circle as applied to railroad curves and of the methods of locating curves in the field. *Allen's Railway Curves and Earthwork*. Taken in connection with Topographic Surveying (C. E. 22). *II*; (1).

Mr. RICHEY, Mr. WILEY, Mr. PICKELS, Mr. ALBRIGHT.

Prerequisite: Civil Engineering 21, 22; General Engineering
Drawing 1, 2; Mathematics 4.

24. METAL STRUCTURES.—The design and calculation of stresses in mill and steel-skeleton buildings. Ketchum's Steel Mill Buildings, and lectures. I; (1). Assistant Professor Malcolm.

Prerequisite: Civil Engineering 12, 13, 19, 20.

- 25. Seminary.—A weekly meeting for the reading and discussion of papers. Each student prepares and presents one major and two minor papers upon assigned topics, and participates in the discussion of other papers when called upon. Open only to senior civil engineering students. II; (1). Associate Professor Brooks.
- 30. Thesis.—The preliminary work on the thesis is begun in the first semester, a weekly conference being required, but no specific time is set apart on the program for doing the work or for this conference. A credit of one semester hour is allowed for thesis work during the first semester. In the second semester weekly conferences are required, and a credit of two semester hours is granted. The preparation of the thesis may require more time than a three semester-hour subject. I; (1); II; (2).

Associate Professor Brooks.

#### COURSES FOR GRADUATES

107. Bridge Design.—The determination of the stresses in swing, cantilever, and suspension bridges; and a study of structural details, of shop equipment, and of methods of fabrication. This work may require an inspection of, and report upon, bridge shops, or of work in progress. *I* or *II*; (3 to 15).

Assistant Professor Dufour.

skeleton of buildings for various purposes. The work is taught by means of lectures, problems, and inspection of construction work in progress. *I or II;* (3 to 5). Assistant Professor Malcolm.

- II5. REINFORCED CONCRETE DESIGN.—A study of the materials, the design, the forms, and the erection of reinforced concrete structures. *I or II;* (3 to 10). Associate Professor Brooks.
- 129. GENERAL ENGINEERING EXPERIENCE.—Under this head may be considered the practical experience of graduates of the University of Illinois in actual engineering work, provided before the work is begun the head of the department agrees to consider such work with a view of counting it toward an advanced degree. To obtain credit for such experience the student may be required to submit reports, designs, etc., or may be required to take an examination.

Associate Professor Brooks.

# DRAWING, GENERAL ENGINEERING

I. ELEMENTS OF DRAFTING.—This course includes lettering, sketching and working drawings. The instruction in lettering is limited to free-hand styles and titles for drawings.

The drawing rooms have been equipped with standard machine forms, a bench drill, connecting rod, cross-head, hangers, bearings, sectional valves, etc., from which measured sketches are drawn. Time sketches are made from machines in the shops and laboratories.

After the preliminary exercises in the use of drawing instruments, working drawings are made from these sketches. Architectural students are given practice in drawing the orders of architecture instead of machine forms. Text. Wilson and McMaster's Notes on Practical Mechanical Drawing. 1; (4).

Mr. McMaster, Mr. Dick, Mr. Porter, Mr. Lord, Mr. Elam.

2. Descriptive Geometry.—Problems are solved relating to the point, line and plane, the properties of surfaces, and intersections and developments. Lectures or recitations precede the work in the drawing room at each period. Church's Descriptive Geometry. II;
(4). Mr. McMaster, Mr. Dick, Mr. Porter, Mr. Lord, Mr. Elam. Prerequisite: General Engineering Drawing I.

# ELECTRICAL ENGINEERING

1. ELECTRICAL ENGINEERING.—Lectures and recitations accompanying Electrical Engineering 21, laboratory practice; for students in mechanical engineering. Principles of electrical machinery; selection, installation, and operation; distribution of power; motor applications. II; (2).

Assistant Professor Paine.

Prerequisite: Physics 1 and 3; Mathematics 9.

2. ELECTRICAL ENGINEERING.—Lectures and recitations accompanying Electrical Engineering 26, laboratory practice; for students in civil engineering. Similar to Electrical Engineering 1. I; (2).

Mr. WILLSON.

Prerequisite: Physics 1 and 3; Mathematics 9.

4. TELEGRAPHY AND TELEPHONY.—Fundamental principles of electric signaling, with illustrations from modern telegraphic methods. Wireless telegraphy. Theory of the telephone; commercial instruments; switching methods. Line construction. II; (2).

Assistant Professor PAINE.

Prerequisite: Physics 4; Electrical Engineering 5.

5. ALTERNATING CURRENTS.—A mathematical and graphical treatment of the principles of periodic currents, with theory of the transformer. Application of theory in generators, motors, and transformers. II; (4).

Professor Brooks.

Prerequisite: Electrical Engineering 16; Physics 4.

6. ALTERNATING CURRENTS.—A short course in alternating current theory and practice; for mechanical engineers. I; (2).

Professor Brooks.

Prerequisite: Electrical Engineering 16 and 25.

9. LIGHTING.—For architects. Electric lamps and other illuminants, and their effective use. Interior wiring. Methods of electrical distribution. II; for nine weeks (1).

Assistant Professor PAINE

11. POWER PLANTS.—Principles governing the location of power plants, both steam and hydraulic. Selection and installation of generating units; management and testing of complete plants. Estimates, specifications, and superintendence. II; (3).

Assistant Professor WALDO.

Prerequisite: Electrical Engineering 5 and 15.

- 12. ELECTRO-CHEMISTRY.—Theory and application upon an engineering scale of electrolysis and heat in the manufacture of metals and other products. The electric furnace. Storage battery engineering. II; (2).

  Assistant Professor Waldo.
- 13. Seminary.—A weekly meeting for the discussion of topics from current periodicals, and of scientific papers. I, II; (1).

Assistant Professor PAINE.

Prerequisite: Electrical Engineering 16 and 5.

14. ADVANCED ALTERNATING CURRENTS.—Steinmetz' symbolic method. The various types of alternating current motors;—induc-

tion, repulsion and series, also synchronous converters, and their application. I; (3). Professor Brooks.

Prerequisite: Electrical Engineering 5.

15. ELECTRICAL DISTRIBUTION.—Line construction, underground and overhead. Long distance transmission. Local distribution. Interior wiring. Effective lighting. *I*; (3)

Assistant Professor PAINE.

Prerequisite: Electrical Engineering 5.

16. DYNAMO-ELECTRIC MACHINERY.—Fundamental principles of generators and motors; application of these principles to the design and operation of electrical machinery. *I*; (4

Assistant Professors PAINE and WALDO.

Prerequisite: Physics I and 3; Mathematics 9.

21. ELECTRICAL ENGINEERING LABORATORY.—For students in mechanical engineering. Illustration of principles and operation of dynamos, motors, and transformers. I; (2).

Mr. Willson, Mr. James.

Prerequisite: Electrical Engineering 1.

22. ELECTRICAL ENGINEERING LABORATORY.—Experimental study of direct current dynamos and motors; use of measuring instruments; operation of electric machinery; complete tests similar to those made by dynamo manufacturers. II; (2).

Mr. BRYANT, Mr. WILLSON, Mr. JAMES.

Prerequisite: Electrical Engineering 16.

23. ELECTRICAL ENGINEERING LABORATORY.—Study of alternating current circuits, instruments and machines. Photometry, testing of telephone and telegraph instruments and lines. *I*; (3).

Mr. BRYANT, Mr. HAKE.

Prerequisite: Electrical Engineering 5 and 22.

24. ELECTRICAL ENGINEERING LABORATORY.—Advanced direct and alternating current testing; problems in transmission line losses; polyphase operation. II; (2). Mr. BRYANT, Mr. HAKE.

Prerequisite: Electrical Engineering 23.

25. ELECTRICAL ENGINEERING LABORATORY.—For students in mechanical engineering; similar to Electrical Engineering 22. II; (2). Mr. WILLSON, Mr. JAMES.

Prerequisite: Electrical Engineering 16.

26. ELECTRICAL ENGINEERING LABORATORY.—For students in civil engineering; similar to Electrical Engineering 21. I; (2).

Mr. WILLSON, Mr. JAMES.

Prerequisite: Registration in Electrical Engineering 2.

28. ELECTRICAL ENGINEERING LABORATORY.—A short course in laboratory practice, similar to Electrical Engineering 21, for municipal and sanitary engineers. *I*; (1). Mr. Willson.

Prerequisite: Electrical Engineering 1.

- 29. ELECTRICAL ENGINEERING LABORATORY.—To follow Electrical Engineering 25, for students in mechanical engineering; includes alternating current practice. II; (2). Mr. BRYANT, Mr. HAKE. Prerequisite: Electrical Engineering 6 and 25.
- 32. ELECTRICAL DESIGN.—Calculation and design of electro-magnets and of dynamos, direct and alternating, and of transformers. I; (1).

  Assistant Professor Waldo, Mr. Jensen.

Prerequisite: Electrical Engineering 5.

33. POWER PLANT DESIGN.—Drawings and specifications for a complete plant, or design for a switchboard and distribution system.

II: (1). Assistant Professor Waldo, Mr. Jensen.

Prerequisite: Electrical Engineering 5 and 15.

35. Thesis.—Preliminary reading and investigation are done during the first semester without special assignment of credit; the credit granted the second semester often does not duly cover the time devoted to thesis work. Subjects must be chosen and approved before the first Monday in November. II; (3).

#### COURSES FOR GRADUATES

- TOI. THEORY OF ALTERNATING CURRENTS.—This may include a study of polyphase circuits, alternating current machinery, alternating current measuring apparatus, or a combination of these subjects.

  Professor Brooks.
- TO2. THE GENERATION, TRANSMISSION, and UTILIZATION OF ELECTRICAL ENERGY.—This may include a study of dynamo-electric machinery, light and power plants, switchboards, transmission lines, motor driving, electrometallurgy, or a combination of these subjects.

  Assistant Professor Paine.
- 103. ELECTRICAL DESIGN.—This may include the development of plans for an electrical machine or apparatus of specified character, or for the arrangement of an electrical plant, or for the installation of such machinery or apparatus.

  Assistant Professor Waldo.
- 104. ELECTRICAL ENGINEERING RESEARCH.—This may include an experimental investigation of some electrical phenomena, or tests of some electrical machine, or of a plant of such machines.

Mr. BRYANT.

## MECHANICAL ENGINEERING

I. SHOP PRACTICE.—(a) Pattern Shop, 18 weeks.—Care and use of tools, exercises in the construction of joints; turning, pattern making, and corebox making. *I, II;* (3).

(b). Forge Shop, 9 weeks.—Forging, welding iron and steel; tempering lathe and planer tools; annealing and case hardening. I,

II;  $(1\frac{1}{2})$ .

(c). Foundry, 9 weeks.—Care and management of cupola; floor, bench, and machine molding; green and dry sand cores; casting of brass, alloys, and soft metals. I, II;  $(1\frac{1}{2})$ .

The students are required to make inspection trips to commercial shops in the vicinity and to take notes on methods and pro-

cesses. I, II; (3).

Assistant Professor Gill, Mr. Ellis, Mr. Lanham, Mr. Casper, Mr. Cook, Mr. Tarflinger.

2. Machine Shop Practice.—The work in the machine shop is organized on a plan similar to that used in the pattern shop. A series of exercises at the beginning of the course makes the student familiar with the standard machine tools and with ordinary shop processes. Later in the course the student is expected to finish a complete machine. By means of lectures and visits of inspection to shops within reach the student is taught the best methods of manufacture, methods of reducing costs, etc. I, II; (2½).

Assistant Professor Gill, Mr. Scroggin, Mr. Goben, Mr. Bradford.

3. Power Measurement.—This course includes a study of the apparatus used in engine and boiler tests—scales, thermomoters, indicators, brakes and dynamometers, gauges, calorimeters, etc. The methods of calibrating and using such apparatus are taught. Tests for indicating horse-power are made on steam engines, pumps, and gas engines. Students are required to make reports on all experiments undertaken. I, II; (½).

Assistant Professor Thorpe, Mr. Garland, Mr. Godeke. Prerequisite: Mechanical Engineering 1, 2; Mathematics 9.

4. ELEMENTS OF MACHINE DESIGN.—The aim of this course is to familiarize the student with machine elements, such as bolts, keys, journals, bearings, couplings, gears, etc. Problems are given that require simple calculations for strength. Considerable attention is paid to forms of gear teeth and to spur and bevel gears. Kent's

Mechanical Engineer's Pocketbook; also Unwin's Machine Design. I;  $(2\frac{1}{2})$ . Mr. Dunkin, Mr. Bench.

Prerequisite: General Engineering Drawing 1.

5. Mechanism (Kinematics of Machinery).—The object of the course is to make the student familiar with typical mechanisms and mechanical movements and with the kinematic principles involved in laying out such mechanisms. In the analysis of existing mechanisms, the methods of Reuleaux are followed. The character of the pairing is studied and tests for constraint are applied. Following the analysis, the motion system is studied both by the method of instantaneous centers and by the method of velocity polygons. Special attention is given to the parallel motions, quick return motions, valve gears, and epicyclic trains. Dunkerly's Mechanism supplemented by notes. II; (2½).

Mr. Dunkin, Mr. Dirks.

Prerequisite: Physics 1 and 3; Registration in Theoretical and Applied Mechanics 7.

6. Heat Engines.—A continuation of course 7. The principles of thermodynamics are applied to the study of modern heat motors, including the steam engine, steam turbine, gas engine, air compressor, and refrigerating machine. Considerable attention is paid to mixtures of gases and to the combustion of gaseous fuels. The theory of the steam turbine is developed sufficiently to give the student a good knowledge of the principles underlying turbine design. *I*; (3).

Associate Professor Goodenough.

Prerequisite: Mechanical Engineering 7.

7. THERMODYNAMICS.—The fundamental laws governing the transformation of heat into work. The properties of heat media, the perfect gases, saturated and superheated vapors, including ammonia, sulphur dioxide, etc. The course concludes with a study of the flow of fluids, which furnishes the necessary preparation for the subsequent work in steam turbines. II; (3).

Associate Professor Goodenough.

Prerequisite: Theoretical and Applied Mechanics 8.

8. Mechanics of Machinery.—The principles of theoretical mechanics are applied to various classes of machinery. The work is varied from year to year, but includes some of the following topics: friction in machine parts; useful application of friction as in friction clutches and brakes; transmission of power by ropes and belting; brakes, clutches, and dynamometers; hoisting machinery, including rope and chain blocks; hoisting in mines; elevators and

cranes; hydraulic machinery, including accumulators, centrifugal pumps, etc.; air machinery, including fans, blowers, air compressors, air motors, and transmission of power by means of air. *I*; (2). *II*; (3).

Assistant Professor Leutwiler.

Prerequisite: Theoretical and Applied Mechanics 7, 8, 9, 10; Mechanical Engineering 5, 7.

9. Advanced Machine Design.—In this course two lines of work are undertaken: (a). Inventive Problems.—Two classes of problems are given. (1) Designs of parts of machines or of mechanisms to accomplish a definite purpose or to effect a certain predetermined motion. (2) The design of a number of jigs and fixtures applicable to drilling, milling, boring, and turning operations. (b) Advanced Design.—The design of machinery subjected to heavy and variable stresses, such as punches, shears, presses, riveters, and cranes. The theory of machine design and its applications; investigation of an actual machine similar to the one about to be designed. The student makes the complete design accompanied with a bill of material. I, II; (3). Assistant Professor Leutwiller, Mr. Dunkin.

Prerequisite: Theoretical and Applied Mechanics 7, 8, 9, 10; Mechanical Engineering 1 to 8.

- 10. ESTIMATES, SPECIFICATIONS, AND SUPERINTENDENCE.—Calculations and estimates, relating to the cost of machinery, power plants, boilers, chimneys, systems of piping, engines and their foundations, different methods of power transmission. Forms of contracts and specifications are studied. II; (1). Professor Breckenridge.

  Prerequisite: Theoretical and Applied Mechanics 7, 8, 9, 10.
- II. Steam Engines and Boilers.—For students in civil, architectural and municipal engineering. The course includes the construction, operation, and care of boilers and engines; elementary thermodynamics; the indicator and indicator diagrams; steam engine performance. II; (3).

  Mr. Bench.
- 12. MECHANICAL ENGINEERING LABORATORY.—This course includes experiments on engines, pumps, boilers, injectors, air compressors, hoisting appliances, etc.; also experiments with the transmission dynamometer on the power required by shop machinery. Tests of power plants in the vicinity are made. The railway test car affords opportunity for tests in the line of railway engineering. Carpenter's Experimental Engineering. 1; (3).

Assistant Professor Thorpe, Mr. Godeke, Mr. Garland.

Prerequisite: Theoretical and Applied Mechanics 7, 8, 9, 10;

Mechanical Engineering 1 to 7.

- 13. MECHANICAL ENGINEERING LABORATORY.—This is a laboratory course for students in other departments of the College of Engineering. It includes the testing and calibration of instruments and apparatus, use of the indicator, calculation of horse-power and steam consumption, reading of indicator diagrams, and valve setting. II; (2). Assistant Professor Thorpe, Mr. Garland, Mr. Godeke.
- 15. THERMODYNAMICS AND HEAT ENGINES.—For electrical engineering students. This course covers the same ground as Courses 6 and 7, but in a shorter time. I; (3)

Associate Professor Goodenough.

Prerequisite: Mechanical Engineering 23.

18. Graphic Statics of Mechanism.—This course is divided into two parts. The first part includes the general principles of graphic statics and the analysis of stresses in cranes and simple trusses. The second part deals with the graphical analysis of machines, taking account of sliding, journal and pivot friction, chain friction, rope stiffness, etc. *I*; (2).

Mr. Dirks.

Prerequisite: Theoretical and Applied Mechanics 7, 8.

19. Seminary.—The work of this course supplements the other studies of the senior year. Papers on subjects relating to current engineering practice are read and discussed. Each student subscribes for a technical journal and the indexing of current engineering literature is a part of the work of this course. *I, II;* (1)

Professor Breckenringe.

- 20. Shop Practice for Special Students.—This course is open to those entering as special students, as defined elsewhere under "Admission." The work done does not count for a credit for graduation in any of the technical courses.

  Mr. Scroggin.
- 21. Forge Shop Practice.—For students taking the course in agriculture. Instruction is given in forging, such as will be of use to the practical farmer. The course may be started at the beginning or middle of either semester. Six hours a week; (2).

Mr. Lanham, Mr. Cook.

- 22. Wood Shop Practice.—For students taking the course in agriculture. Students should arrange with the instructor for nine hours of work each week. *I or II;* (3). Mr. Ellis.
- 23. STEAM ENGINEERING.—The object of this course is to familiarize the students with engines, boilers, pumps, condensers, and other steam machinery so that he may intelligently take up the advanced courses in thermodynamics and heat engines. The course is

taken in combination with the laboratory work in power measurements. The following topics are considered: General description of boilers, engines, and other steam machinery; elementary properties of gases and vapors; compounding; superheating, jacketing, etc.; mechanics of the steam engine; governors; valve gears. For students in mechanical engineering.  $I, II; (1\frac{1}{2})$ ; for students in electrical engineering. II; (3).

Assistant Professor Thorpe, Mr. Dirks, Mr. Garland. Prerequisite: Theoretical and Applied Mechanics 7, 8.

26. ADVANCED SHOP PRACTICE.—An elective course for juniors or seniors who desire to take up advanced work in any of the shops. The work may include the construction of commercial machinery, the construction of apparatus or machines originally designed by the student, or a study of modern shop processes, especially those relating to the production of interchangeable parts by means of jigs and templates. The course may be begun in either semester. Time and credits will be arranged. Assistant Professor GILL, Mr. Scroggin.

Prerequisite: Mechanical Engineering 1, 2.

27. Advanced Laboratory Practice.—This course provides senior students an opportunity to take up special research work in the mechanical engineering laboratory. The character of the work will depend upon circumstances. Time and credits will be arranged by consultation. Professor Breckenridge, Assistant Professor Thorpe

Prerequisite: Mechanical Engineering 3, 12.

29. Seminary for Juniors.—The work of this course requires a study of technical publications and the presentation of abstracts of important articles on engineering topics. It includes also a study of the various technical indexes, methods of classification, and filing systems for clippings, catalogs, and drawings. *I*, *II*; (1).

Professor Breckenringe

## Prerequisite: Rhetoric.

30. MACHINERY AND MANUFACTURING.—Construction, operation and erection of "form changing machines." A study of machinery that transforms raw material into a finished product. Manufactures vs. building; hand labor vs. automatic machinery; the American system of interchangeable machine parts. *I*; (2).

Assistant Professor GILL.

31. Generation and Transmission of Power.—Elementary principles of generation and transmission of power. Applications of power for purposes of agriculture, manufacturing, mining, and transportation on land and water. II; (2). Assistant Professor Thorpe.

33. Thesis.—Each senior student is required to take up some special subject of investigation and prepare a thesis embodying a review of the literature of the subject, the results of his investigation and a discussion of those results. During the second semester weekly reports are required. A credit of three semester hours is given, but the work may require for its completion more time than a three semester hour subject. II; (3).

Professor Breckenridge, Associate Professor Goodenough, Assistant Professors Leutwiler, Thorpe, and Gill.

#### COURSES FOR GRADUATES

The following courses may be elected by seniors with the permission of the head of the department.

- 102. Modern Shop Methods and Management.—This course includes a study of modern methods of construction; special tools and processes; cost-keeping; payment of labor, and kindred topics. Lectures on organization and management are given. I, II; (2).

  Professor Breckenridge. Assistant Professor Gill.
- 105. KINEMATICS AND GRAPHIC KINETICS.—The kinematic and kinetic problems connected with typical mechanisms are analyzed and studied. Graphical methods are for the most part employed. The following is an outline of topics:—Construction of velocity and acceleration polygons; the law of Coriolis and its applications; kinetics of steam engine and quick return motions; analysis of engine governors. II; (3).

  Mr. Dirks.
- 106. HEAT MOTORS AND REFRIGERATING MACHINERY.—Special emphasis is laid on the advanced theory of the internal combustion motor, and of the steam turbine. The general principles and methods of refrigeration are studied. II; (3).

Associate Professor Goodenough.

- 107. THERMODYNAMICS.—The general principles of thermodynamics are developed and applied to the solution of various physical and chemical problems. *I*; (2). Associate Professor Goodenough.
- 109. Machine Design.—Individual problems are assigned so that the student may specialize along the line of his inclination. The course also includes the general theory of rational design and the application of Mechanics of Materials to design. *I, II;* (3).

Assistant Professor Leutwiler.

112. LABORATORY INVESTIGATIONS.—This course consists of special investigations of problems relating to combustion of fuel, boiler

economy, steam engines and turbines, gas engines and producers, properties of explosive mixtures, mechanical refrigeration, etc. Emphasis is laid upon original work. *I, II;* (3).

Assistant Professor THORPE.

114. Engineering Design.—The student is required to make a design with estimates and specifications of a complete engineering project, such as a manufacturing plant, a power plant, or a pumping station. *I*, *II*; (3).

Assistant Professors Thorpe and Leutwiler.

## MECHANICS, THEORETICAL AND APPLIED

4. APPLIED MECHANICS.—This course is taken by students in architecture instead of Theoretical and Applied Mechanics 7 and 8. The topics studied will be nearly identical, but the course is somewhat simplified. Morley's Mechanics for Engineers. I; (4).

Mr. Murdock.

Prerequisite: Mathematics 6.

5. Strength of Materials.—This course is taken by students in architecture instead of Theoretical and Applied Mechanics 9. The course of study will be nearly the same, though somewhat simplified. Merriman's Mechanics of Materials. II; Laboratory, weekly; (4).

Mr. Murdock.

Prerequisite: Mathematics 6; Theoretical and Applied Mechanics 4.

6. Engineering Materials.—Weekly lectures on the properties and requirements for materials used in engineering construction, the effect of methods of manufacture upon the quality of the material, and the specifications and standard tests used to secure acceptable grades of material. *I*, (1).

Professor Talbot, Assistant Professor Moore.

Prerequisite: Registration in Theoretical and Applied Mechanics 9.

7, 8. ANALYTICAL MECHANICS.—The mechanics of engineering rather than that of astronomy and physics, is here considered. Attention is given to fixing the fundamental concepts and demonstrating the general principles of equilibrium and motion and to the application of principles and methods to engineering problems. Training in the statement of conditions and in the use of data is given. This subject requires a thorough working knowledge of the mathematics preceding it in the course. The work begins in the

second semester, and in the first semester of the following college year it is given concurrently with Theoretical and Applied Mechanics 9. Maurer's Technical Mechanics. II; (3). I; (2½).

Mr. Engstrom, Mr. Murdock, Mr. Enger, Mr. Doolittle, Mr.

WAGNER.

Prerequisite: For 7, Mathematics 7, registration in Mathematics 9; for 8, Mathematics 9, Theoretical and Applied Mechanics 7.

9. RESISTANCE OF MATERIALS.—Thorough training in the elementary principles of the mechanics of materials, with experiments and investigations in the materials laboratory to verify the experimental laws; problems in ordinary engineering practice to train the student in the use of his knowledge. Attention is also given to the quality and requirements for structural materials. Merriman's Mechanics of Materials. This course is given concurrently with Theoretical and Applied Mechanics 8; Laboratory weekly. I; (3½).

Mr. Engstrom, Mr. Whittemore, Mr. Murdock, Mr. Enger, Mr.

FLEMING, Mr. DOOLITTLE, Mr. WAGNER.

Prerequisite: Mathematics 9; Theoretical and Applied Mechanics 7; Registration in Theoretical and Applied Mechanics 8.

10. Hydraulics.—Text-book and laboratory work. The laws of the pressure and the flow of water and its utilization as motive power are considered. Experimental work in the observation and measurement of pressure, velocity, and flow, in power and efficiency, and in the determination of experimental coefficients. *Merriman's Hydraulics. Laboratory weekly. II*; (3).

Mr. Engstrom, Mr. Whittemore, Mr. Murdock, Mr. Enger,

Mr. Fleming, Mr. Doolittle, Mr. Wagner.

Prerequisite: Mathematics 9; Theoretical and Applied Mechanics 8.

### COURSES FOR GRADUATES

- IOI. ANALYTICAL MECHANICS.—This is an extension of the undergraduate course. The foundation of mechanics and its various relations, the methods of treatment and attack, and the study of the more complex problems and applications are taken up. A critical and comparative study of texts will also be made.
- 102. RESISTANCE OF MATERIALS.—Advanced work on the properties of materials used in engineering construction and the methods of determining these properties; analysis and investigation in mechanics of materials, including the effect of form of member in a structure or machine and the method of application of forces. Comparative study of texts may be made.

- 103. HYDRAULICS AND HYDRAULIC ENGINEERING.—The laws of hydraulics and their application to engineering problems; hydraulic power and its development; design and investigation.
- 104. EXPERIMENTAL WORK IN LABORATORY OF APPLIED MECHANICS.—(a) Laboratory investigation in the materials testing laboratory on materials and on their action as used in machines and structures; (b) experimental work in the hydraulic laboratory with pumps, motors, and measuring devices, and the investigation of the laws of hydraulics, the development of power, and the study of various hydraulic problems.
- 105. EXPERIMENTAL AND ANALYTICAL WORK IN REINFORCED CONCRETE.—Research work in reinforced concrete and the study of its application to structures.

In the courses above named the work will be arranged to fit the conditions of individual classes.

#### MUNICIPAL AND SANITARY ENGINEERING

2. Water Supply Engineering,—This subject is intended to cover the principal features of water supply engineering, including source of supply, hydraulics of wells, stream flow, impounding and storage reservoirs, conduits and pipe lines, pumps and pumping machinery, stand-pipes, and elevated tanks, the distribution system, and tests and standards of purity of potable water. Designing weekly. Turneaure's Public Water Supplies. 1; (4).

Mr. Habermeyer, Mr. Enger.

Prerequisite: Theoretical and Applied Mechanics 9, 10; Chemistry 1; Mechanical Engineering 11.

3. Sewerage.—The design and methods of construction of sewerage systems are treated, including the following: Sanitary necessity of sewerage; water carriage systems, both separate and combined; surveys and general plans; hydraulics of sewers; house sewage and its removal; relation of rainfall to storm water flow; determination of size and capacity of sewers; forms and strength of sewer appurtenances; modern methods of sewage disposal; estimates and specifications. Designing weekly. Folwell's Sewerage. II; (3).

Mr. Habermeyer, Mr. Enger.

Prerequisite: Theoretical and Applied Mechanics 9, 10; Chemistry 1; Municipal and Sanitary Engineering 2.

5a. Bacteriology.—For students in municipal and sanitary engineering. This course includes the identification and classification of bacteria, and of allied organisms, their relations to health and

to disease, the methods of separation and cultivation, and the methods of air and water analysis. The laboratory is furnished with sterilizers, culture ovens, microscopes, etc., and students have abundant opportunity to do practical work. This course follows Civil Engineering 4a. I; last 7 weeks; (2).

Professor Burrill, Mr. Briscoe.

6a, b. Water Purification, Sewage Disposal, and General Sanitation.—This work includes the consideration of impurities in water supplies and the study of the methods and processes of their removal; the modern methods of sewage disposal by filtration, chemical precipitation, irrigation, etc., with a study of representative purification plants; garbage collection and disposal; sanitary restrictions and regulations, and general sanitation. Lectures, seminary work and drafting. *I*; (2). *II*; (3).

Professor Talbot, Mr. HABERMEYER.

Prerequisite: Municipal and Sanitary Engineering 2, 3, 5a; Chemistry 1, 3b, 10b.

7. WATER SUPPLY ENGINEERING.—This course is similar to Municipal and Sanitary Engineering 2, and is intended for students in sanitary science. Designing weekly. *Turneaure's Public Water Supplies*. *I*; (4).

Mr. HABERMEYER.

Prerequisite: Theoretical and Applied Mechanics 4, 5, 10; Chemistry 3a.

8. Sewerage.—This course is similar to Municipal and Sanitary Engineering 3, and is intended for students in sanitary science. Designing weekly. Folwell's Sewerage. II; (3).

Mr. HABERMEYER.

30. Thesis.—This work is required in the senior year. It takes up an investigation or design of an engineering problem. II; (2).

Professor Talbot, Mr. Habermeyer.

#### COURSES FOR GRADUATES

- 102. Water Supply Engineering.—Advanced work in water supply engineering will be arranged to fit the conditions of individual classes. Sources and requirements of water supply, general water-works, construction, pumps and pumping, design of reservoirs and elevated tanks, and water-works operations and the valuation of plants are among the topics which may be treated.
- 103. Sewerage.—General sewerage design and construction, a study of sewerage systems, hydraulics of sewers, and a study of run-off are examples of the work which may be taken up.

106. WATER PURIFICATION, SEWAGE DISPOSAL, AND GENERAL SANITATION.—The design, construction, and operation of water purification plants and of sewage disposal works, the study of existing plants, comparison of results and cost of construction and operation may be taken up in this course. Experimental work on water filters, septic tanks, etc., may be included. Garbage disposal and general sanitation may also be taken.

## RAILWAY MECHANICAL ENGINEERING

1. Locomotives.—This is an introductory course and includes a study of the mechanics of the locomotive and some problems relating to its operation. In it are considered the engine and valve mechanisms, counterbalancing, the determination of tractive effort, tonnage rating problems, and the development of types. The course is co-ordained especially with Courses 2 and 8. I; (2).

Associate Professor SCHMIDT.

Prerequisite: Theoretical and Applied Mechanics 9; Mechanical Engineering 7 and 23.

2. Locomotive Design.—Calculations and design of engine and boiler details. Study of current standards and proportions. Drafting room systems. *I*; (3). Mr. Williamson.

Prerequisite: Mechanical Engineering 1 to 7, 23; Theoretical and Applied Mechanics 9; Registration in Railway Engineering 1.

3. Shop Systems.—A study of the arrangement and equipment of railway shops and roundhouses, and of their management, organization, and wage systems. The class room work is supplemented by shop visits. *I*; (1).

Mr. Wenger.

Prerequisite: Mechanical Engineering 3 and 4.

4. Locomotive Performance.—A study of locomotive boiler and engine performance. This includes the consideration of the influence upon performance of such factors as combustion rate, steam pressure, speed, cut-off and other valve relations, compounding and superheating. *I*; (3).

Mr. Williamson.

Prerequisite: Theoretical and Applied Mechanics 8; Mechani-

cal Engineering 1-7 and 23.

5. Shop and Auxiliary Equipment.—This course supplements Course 3 in dealing with shop equipment and considers also such auxiliary railway equipment as pumping stations and purifying plants. In it is included a study of air-brake construction and operation. The department owns sufficient air-brake equipment for

demonstrations, and the courtesy of the instructors in charge of the air-brake cars of the Illinois Central Railroad Company and the Cleveland, Cincinnati, Chicago and St. Louis Railway Company, makes these cars also available for instruction. II; (1).

Associate Professor SCHMIDT.

Prerequisite: Railway Engineering 3.

7. Advanced Design.—Advanced problems in locomotive and car design and sliop arrangement. This is a continuation of the work in Course 2. II; (3).

Mr. WILLIAMSON.

Prerequisite: Railway Engineering 2.

8. DYNAMOMETER CAR TESTS.—By the use of the railway test car in trains on the Illinois Central Railroad, investigations of train resistance and locomotive tractive effort are made in this course. The applications of the results to the determination of tonnage ratings are discussed and exemplified by special problems. II; (1).

Mr. WILLIAMSON.

Prerequisite: Open to seniors in railway courses only.

IO. SEMINARY.—Discussion of current topics and review of railway journals. Assigned topics and reports. I, II; (1).

Associate Professor SCHMIDT.

Prerequisite: Open to seniors in railway courses only.

II. RAILWAY TESTS.—This course is for students in other departments of the College of Engineering. It includes train resistance tests on steam roads and work with the electric test car. II;

(1), Mr. Wenger, Mr. Marquis.

Prerequisite: Mechanical Engineering 3; Electrical Engineering 6 or 21.

30. Thesis.—The thesis is designed to supply the opportunity for the demonstration of the student's ability independently to apply his training to the solution of some problem or the investigation of some subject. The thesis may consist of an original experimental investigation, or may be the analysis and discussion of data already in existence. A credit of three hours is given, but more time may be required. II; (3).

Associate Professor Schmidt, Mr. Wenger, Mr. Marquis, Mr.

WILLIAMSON.

## RAILWAY CIVIL ENGINEERING

31. RAILWAY YARDS AND TERMINALS.—Instruction is given in the theory and practice of the proper location of frogs and switches and

in the design of yard tracks to insure efficiency of operation. The course includes a consideration of the details of track construction.

II; •(1).

Assistant Professor ROBERTS.

32. RAILWAY STRUCTURES.—Each student makes a set of drawings of the details of railway structures, the dimensions being of his own measurement. He afterwards is given problems in original design which are criticized and corrected. II; (1).

Assistant Professor ROBERTS.

Prerequisite: Civil Engineering 4; Theoretical and Applied Mechanics 7, 8, 9, 10.

33. Economic Theory of Railway Location.—This course includes a study of the influence of location upon the net earning power of a line of railway. I; (4). Assistant Professor Roberts.

Prerequisite: Civil Engineering 4; Theoretical and Applied Mechanics 7 and 8.

35. Signal Engineering.—A study is made of the general arrangement of automatic block signals on single and double track lines, and of interlocking systems for terminals, as well as of the details of construction and of operation. II; (2).

Assistant Professor ROBERTS.

Prerequisite: Civil Engineering 4.

- 50. Seminary.—A weekly meeting for the presentation and discussion of papers on a prearranged course of reading. This work is supplementary to that of the class room, and includes reviews of current engineering literature and of standard works of interest to railway engineers. II; (1). Assistant Professor ROBERTS.
- 60. Thesis.—The preliminary work is begun early in the first semester and a credit of one semester hour is allowed for weekly reports of progress. The work is continued through the second semester and weekly conferences and reports are required. A credit of two semester hours is allowed for the work in the second semester. I; (1). II; (2). Assistant Professor ROBERTS.

## RAILWAY ELECTRICAL ENGINEERING

61. Traction.—This course is for students who are taking either electrical engineering or railway mechanical engineering. It includes a study of electric railway equipment and of the problems of steam road electrification. Some of the work of the course is

exemplified by the use of the electric test car owned by the department. II; (2).

Mr. Wenger.

Prerequisite: Theoretical and Applied Mechanics 8; Electrical Engineering 16 and 5, or 1 and 21, or 16, 25 and 6.

62. RAILWAY LABORATORY AND ROAD TESTS.—Electrical laboratory problems and electric car tests of power consumption, resistance, acceleration, and braking. *I*; (2). Mr. Wenger.

Prerequisite: Theoretical and Applied Mechanics 8; Electrical Engineering 16, 5 and 22, or 16 and 25.

63. RAILWAY LABORATORY AND ROAD TESTS.—A continuation of course 62, consisting principally of road tests with the electric car. II; (2).

Mr. Wenger.

Prerequisite: Railway Engineering 62.

64. ELECTRIC RAILWAY PRACTICE.—This course forms with Course 65 a series, in which are studied the engineering problems which, in electric railway practice, present themselves in preliminary road location; in the selection of rolling stock and rolling stock equipment; and in the operation and maintenance of central stations, substations, and distributing systems. *I*; (3). Mr. Wenger.

Prerequisite: Theoretical and Applied Mechanics 8; Electrical

consideration of the problem of steam road electrification. II; (2).

Engineering 5 and 22.

65. ELECTRIC RAILWAY PRACTICE.—This is a continuation of Course 64. In addition to the matter there indicated it includes a

Mr. WENGER.

Prerequisite: Railway Engineering 64.

## **AGRICULTURE**

### AGRONOMY

#### COURSES FOR UNDERGRADUATES

- I. Drainage and Irrigation.—Location of drains and irrigation conduits, leveling, digging, laying tile and pipes, filling, and subsequent care; cost of construction and efficiency; sewers for the disposal of waste water from farm buildings and the sewage from kitchen and toilet; farm water pipes, pipe and thread cutting. Class work, laboratory, and field practice. I, first half; or II, second half; (2½).

  Mr. White.
- 2. FIELD MACHINERY.—The tools and machinery of the field—plows, harrows, and hoes; seeders, drills, corn and potato planters;

cultivators, weeders, and spraying machines; mowers, rakes, self-binders, corn harvesters and huskers, potato diggers, wagons, etc. Class work and laboratory practice, including setting up and testing machines, noting construction and elements necessary for successful work. Sections A and B. I; (3). Mr. White.

- 3. FARM POWER MACHINERY.—Horse-power, gas engines, traction engines, windmills, pumps, corn shellers, feed cutters, grinders, and threshing machines—their construction, operation, efficiency, durability, and care. Class room and laboratory work. Sections A and B. II; (3).

  Mr. White.
- 4. FARM BUILDINGS, FENCES, AND ROADS.—The arrangement, design, construction, and cost of farm buildings, especially of barns, granaries, and silos; the different kinds of fences, their cost, construction, efficiency, and durability; cost and construction of roads and walks. Class work and practice in designing and drafting buildings, operating fence-building machines, setting and testing fence posts, making walks, etc. II; (5).

  Mr. White.
- 5. SEEDS.—Quality and preservation. Judging of corn, oats, wheat, etc., and a study of market grades of farm crops; shrinkage of grain and care of stored crops to prevent injury and loss. Class and laboratory work. I, first half; (2½).

Mr. CENTER and Mr. LUMBRICK.

- 6. Seeds.—Germination and growth. Vitality, germination, preservation of seeds, methods of seeding; conditions of plant growth; peculiarities of agricultural plants in respect to structure, habits, and requirements for successful growth; enemies to plant growth, weeds and weed seeds, their identification and methods of destruction, fungous diseases, such as smut of oats and wheat, and blight, scab, and rot of potatoes, methods of preyention; insects injurious to farm crops and how to combat them. Class room, laboratory, and field work. II; first half; (2½). Mr. Hegnauer.
- 7. FARM CROPS.—A special study of farm crops. Rotation or succession of crops with special reference to systematic farming and economic distribution of labor, methods of culture, costs of production, consumption of products and residues or by-products. Class work supplemented by laboratory work and a study of the results of previous experiments; special reference to Illinois conditions. I, second half, and II, first half; (5). Mr. Center, Mr. Lumbrick.

Prerequisite: Agronomy 6, or Botany 1, or Botany 2.

8. FIELD EXPERIMENTS.—Special work in the field, consisting of testing varieties of corn, oats, wheat, potatoes, and other farm crops;

methods of planting corn, seeding grains, grasses, and other forage crops; culture of corn, potatoes and sugar beets; practice in treating oats and wheat for smut, and potatoes for scab, and studying the effect upon the crops; combating chinch bugs and other injurious insects. Other practical experiments may be arranged with the instructor. II, and summer vacation; (2½-5.) Mr. Hume.

Prerequisite: Agronomy 7, 12.

9. Soil Physics and Management.—Effects of the different methods of treatment of soils upon the moisture, texture, aeration, fertility, and production. The origin, methods of formation, mechanical composition, and classification of soils; soil moisture, texture, wasting; fall or spring plowing and drainage as effecting moisture, temperatures, and root development. Class and laboratory work, comprising the determination of real and apparent specific gravity, water holding capacity and capillary power of various soils; the study of the physical effects of rotation and of continuous cropping; the mechanical analysis of soils, etc.  $\hat{I}$ ; (5).

Assistant Professor Mosier, Mr. Gustafson.

Prerequisite: Chemistry I, or two credits in entrance physics, and one year of University work.

10. Special Work in Soil Physics.—For students wishing to make a further study of the physical properties of special soils, including the mechanical analysis of such soils by the means of centrifugal or centrifugal eleutriator method. Includes a study in the field of the effects of discing, harrowing, and rolling, time and depth of cultivation, with special reference to soil moisture and temperature. This work will be supplemented by a study of experiments that have been conducted along these lines. *I or II*; (2-5).

Assistant Professor Mosier.

Prerequisite: Agronomy 9.

12. Soil Fertility, Fertilizers, Rotations.—The influence of fertility, natural or supplied, upon the yield of various crops; effect of different crops upon the soil and upon succeeding crops; different rotations and the ultimate effect of different systems of farming upon the fertility and productive capacity of soils; supplemented by a laboratory study of manures and fertilizers; of soils cropped continuously with different crops and with a series of crops; of the fertility of soils of different types or classes from different sections of Illinois. II; (5).

Professor Hopkins, Mr. Eckhardt.

Prerequisite: Chemistry 13a; Agronomy 6, 9.

13. Investigation of the Fertility of Special Soils.—Primarily designed to enable the student to study the fertility of those special soils in which he may be particularly interested, and to become familiar with the correct principles and methods of such investigation. This work is supplemented by a systematic study of similar work of experiment stations and experimenters. *I, II;* (2-5).

Professor Hopkins, Mr. Eckhardt.

Prerequisite: Agronomy 12.

15. Comparative Agriculture.—Reasons for the differences in the agriculture of different times, peoples, and countries, and why it is that the agriculture of a region or of a farm is a definite and individual problem, together with the need of harmonizing agricultural practice with natural conditions and the findings of science. Circumstances that influence agricultural practice, as soil, climate, machinery, race, custom, land tenure, etc.; what is the best under different conditions. Lectures. II; (1). Professor Davenport.

Prerequisite: Two years of University work.

16. German Agricultural Readings.—A study of the latest agricultural experiments and investigations published in the German language, special attention being given to soils and crops. The current numbers of German journals of agricultural science will be required and used as a text. This course is designed to give the student a broader knowledge of the recent advances in scientific agriculture, and, incidentally, it will aid him in making a practical application of a foreign language. Should be taken after Agronomy 12. II; (2).

Prerequisite: Two years' work in German.

17. FARM MACHINERY.—Expert work in farm machinery, chiefly with harvesting machinery and gasoline engines. For students preparing themselves for experting these machines in the field. II; first half or second half; (2½).

Mr. White.

Prerequisite: Agronomy 2.

- 18. INVESTIGATION AND THESIS.—This course varies in the subject matter according to the topics on which theses are written. *I*, *II*; (5-10).
- 19. Research Work in Farm Mechanics.—I or II; (21/2-5). Consult instructor regarding time and requirements.
- 20. CONCRETE CONSTRUCTION FOR AGRICULTURAL PURPOSES.—Testing cements, sand, rock, and gravel. Mixing concrete and making sample walks, fence posts, etc. *I; second half;* (1).

#### COURSES FOR GRADUATES

- 18. INVESTIGATION AND THESIS.—This course varies in the subject matter according to the lines in which theses are written. *I*, *II*; (5-10).
- IOI. SYSTEMS OF SOIL INVESTIGATION; SOURCES OF ERROR AND METHODS OF CONTROL, INTERPRETATION OF RESULTS.

Professor Hopkins.

- 102. THE WORLD'S SUPPLY OF PLANT FOOD MATERIALS, INCLUDING METHODS OF UTILIZATION. Professor HOPKINS.
- 103. DIFFERENT SYSTEMS OF AGRICULTURAL PRACTICE AND THEIR ULTIMATE EFFECT UPON THE SOIL. Professor Hopkins.
- 104. Drainage Waters; Surface and Subdrainage, with Special Reference to Soil Fertility. Assistant Professor Pettit.
- 105. Detailed Study of Soil Investigations in Progress in Illinois. Professor Hopkins, Assistant Professor Pettit.
- 106. Soil Types; Methods of Surveying and Mapping.—The work may include field practice.

  Assistant Professor Mosier.
- 107. Erosion of Soils by Surface Washing and Methods of Prevention.

  Assistant Professor Mosier.
- 108. THE MECHANICAL COMPOSITION OF SOILS; ITS INFLUENCE UPON GRANULATION, ABSORPTION AND RETENTION OF MOISTURE, AND OTHER PHYSICAL PROPERTIES AFFECTING CROP PRODUCTION.

Assistant Professor Mosier.

- The work may include actual practice in planning and conducting field experiments.

  Mr. Hume.
- THE DISTRIBUTION, IDENTIFICATION, AND METHODS OF ERADICATION, AND PREVENTION OF DISSEMINATION.

  Mr. Hume.
- III. The Selection of Seeds; Methods of Determining Quality.  $Mr.\ Hume.$
- 112. PLANT BREEDING, INCLUDING A DETAILED STUDY OF EXPERIMENTS AT THIS STATION, AND OF METHODS AND RESULTS REPORTED FROM OTHER STATES AND FROM FOREIGN COUNTRIES.

Assistant Professor Smith.

113. MACHINE DESIGNING; ADVANCED STUDY OF FARM IMPLEMENTS WITH SPECIAL REFERENCE TO POSSIBLE IMPROVEMENTS.

#### ANIMAL HUSBANDRY

COURSES FOR UNDERGRADUATES

1a. MUTTON AND WOOL PRODUCTION.—A study of the market classes and grades of sheep and of wool, and the value of the grades under the various classes in each subject as indicated by current market reports. Methods of breeding and feeding sheep for the production of mutton and wool. Extensive practice in judging, with lectures and assigned readings. I; first half; (2½).

Mr. Coffey.

Prerequisite: Animal Husbandry 8 and 21.

Ib. Breeds of Sheep and Management.—The history, development, and characteristics of the breeds suitable for the production of mutton and wool. The breeding, care, and feeding of sheep for breeding and for show purposes. Extensive practice in judging, with lectures and assigned readings. I; second half; (2½).

Mr. Coffey.

Prerequisite: Animal Husbandry 1a, 8, and 21.

2. Swine Husbandry.—(a) Market classes; prime heavy, butcher, packing, light hogs and pigs, together with the various grades of the same; market reports; practice in judging. (b) Breeds of swine, origin, development, and characteristics. (c) Pork and bacon production from the standpoint of market requirements and the economy of production from the standpoint of the producer. The breeding, housing, care, and feeding of swine for breeding and for show purposes. II; (5).

Assistant Professor Dietrich.

Prerequisite: Animal Husbandry 8 and 21.

4 and 5. Market Classes of Horses and Mules.—An outline of the market classes including draft horses, chunks, wagon, carriage, road, and saddle horses; mining, cotton, sugar, farm, and draft mules. A study of conformation from the standpoint of market requirements. Extensive practice in judging, lectures and assigned readings. II; first half; (2½).

Mr. Obrecht.

7. PRINCIPLES OF ANIMAL NUTRITION.—The income and expenditure of matter and of energy in the animal body are considered in their various phases. The principles governing body metabolism are formulated with reference to their bearing upon feeding methods and the interpretation of feeding experiments. I; first half; (2½).

Assistant Professor DIETRICH.

Prerequisite: Chemistry 1, 2, 3, 13; entrance Physics, or its equivalent; Animal Husbandry 21, or its equivalent; and one year of Botany or Zoology.

- 8. ELEMENTARY STOCK BREEDING.—This course is designed to familiarize the student with the more common principles of animal breeding with special reference to the range of variability and effects of selection. *I; first half; or I; second half;* (1). Mr. Coffey.
- 9. Investigation and Thesis.—Upon lines to be arranged with the instructor for one or two semesters, according to the nature of the subject. (5-10.)

Professor Mumford, Mr. Hall, Mr. Obrecht, Assistant Professor Dietrich, Mr. Coffey, Mr. Allison.

- 10. Meat.—The structure and composition of meats; market classifications of beef, mutton, and pork, both in the carcass and in the various cuts of the same; breeding and feeding of the animal as affecting the value of the carcass and the quality of the meat; farm and packing-house methods of slaughtering, handling, and curing meats; by-products of slaughter and their bearing upon the cost of meat. II; first half; (2½).

  Mr. Hall.
- II. MARKET CLASSES AND GRADES OF BEEF CATTLE.—An outline of the market classes and grades, including the various grades of beef cattle, butcher stock, cutters and canners, stockers and feeders, and veal calves. A study of beef type from the standpoint of the butcher, the feeder, and the breeder. The value of each grade according to market reports. Extensive practice in judging, with lectures and assigned readings. I; second half;  $(2\frac{1}{2})$ .

Mr. HALL, Mr. ALLISON.

12. Breeds of Beef Cattle.—The history, development, and characteristics of the breeds suitable for beef production. Tracing pedigrees and critical study of the same. (This course is intended for students expecting to own or manage pure-bred herds.) A study in breed types as exemplified in individual animals in the University and other herds. Lectures, assigned readings, and extensive practice in judging. II; first half;  $(2\frac{1}{2})$ .

Professor Mumford, Mr. Allison.

Prerequisite: Animal Husbandry 10 and 11.

13. BEEF PRODUCTION.—Breeding beef cattle for market; combined beef and milk production; and fattening steers. Economic factors in cattle feeding; influence of age, grade, breed, condition, and sex. Shelter, feed lots, and equipment. Hogs and manure as by-products of beef production. Lectures, assigned readings, and a study of experimental work. II; first half; (2½). Mr. HALL.

Prerequisite: Animal Husbandry 8 and 21.

14. Management of Pure-Bred Herds, Flocks, and Studs.—Like Animal Husbandry 12, this course is intended for students anticipating the management or ownership of registered live stock. A study of the methods of the most successful breeders as to housing and management; the selecting and fitting of animals for sale and for the show ring; advertising and sale of surplus stock. Lectures and assigned readings. II; second half; (2½).

Professor Mumford.

Prerequisite: Any one of the following Animal Husbandry courses: 1, 2, 12, 18, and 19.

- 15. DAIRY CATTLE.—(See Dairy Husbandry 2 and 17.)
- 16. Stable Management and Feeding of Horses.—Feeding and care of work horses and drivers at labor and at rest, and fattening horses for market. Stables, stable fixtures, harness, vehicles, and other equipment, and their care. Lectures and assigned readings. I; first half; (1½).

  Mr. Obrecht.

Prerequisite: Animal Husbandry 21.

17. Education and Driving of the Horse.—A critical study of the mental qualities, peculiarities, and limitations of the horse, together with the most successful methods of educating and training him for skillful work at labor or on the road. The rules and practices of correct driving, the responsibilities of the driver, and the courtesies of the public highway. Lectures, readings, and practice. II; second half; (2).

Mr. Obrecht.

Prerequisite: Animal Husbandry 5 and three semesters' work in the University or its equivalent.

Only a limited number of students admitted to this course.

18 and 19. Breeds of Horses.—Their history, development, and characteristics. Lectures, assigned readings, stud-book work, tracing pedigrees, and practical work in judging. I; first half; (2½).

Mr. OBRECHT.

Prerequisite: Animal Husbandry 4 and 5.

21. ELEMENTARY STOCK FEEDING.—The animal body: its processes and requirements; digestion and utilization of food, and conditions affecting them. Feeding stuffs: their composition; their comparative values considered chemically, physiologically, and with reference to their fertilizing constituents. Feeding standards and the compounding of rations. Lectures, assigned readings, and recitations. I; first half or second half; (1½).

Mr. Hall.

22. ADVANCED STOCK JUDGING.—A study of animal conformation with reference to market and show yard form, quality, and condition. A course intended to render the student expert in his judgment in the selection of horses, beef cattle, sheep, and swine, for feed lot, market, and exhibition and to qualify him as a competent judge at live stock shows. II; daily; (3).

Professor Mumford, Assistant Professor Dietrich, Messrs. Hall, Obrecht, Coffey, Allison.

Prerequisite: Credits in Animal Husbandry 1, 2, 4, 5, 11, and 10 or 12, and three semesters' work in the University or its equivalent.

#### COURSES FOR GRADUATES

- 103. LIVE STOCK EXPERIMENTATION.—Objects, methods, and sources of error in experimental work dealing with the feeding, breeding, and management of farm animals. Detailed study of live stock experiments in progress at this Station, and a survey of past and present work in this line by the various experiment stations of the world.

  Professor Mumford.
- 104. Meat.—Special investigations relating to the quality and amount of meat and by-products yielded by cattle, sheep, and swine under various conditions of feeding, breeding, and management, with reference to improvement in quality of such products.

Mr. HALL.

- 106. Swine.—Type of swine as determined by environment, by feed, and by market demands.

  Assistant Professor Dietrich.
- 107. DUAL PURPOSE CATTLE.—Special investigations relative to history, development, characteristics, and economic importance of the breeds suitable for the production of beef and milk.
- TIO. ANIMAL NUTRITION.—This course includes a thorough study of the chemical changes, reactions, and processes involved in the activities of animal life; namely, mastication, digestion, absorption, assimilation, disassimilation, respiration, circulation, secretion, and reproduction.

  Professor Grindley, Professor Hawk.

Prerequisite: 10 hours in Animal Husbandry and 30 hours in Chemistry.

III. Animal Nutrition.—Detailed studies of the physiology of muscle, nerve, blood, bone, and of the organs and products of secretion, digestion, and respiration. This course also includes metabolism experiments to determine the physiological requirements

of the animal body, for the various nutrients of food-stuffs for maintenance, growth, fattening, and milk production.

Professor GRINDLEY, Professor HAWK.

Prerequisite: 10 hours in Animal Husbandry and 10 hours in Physiology.

112. Animal Nutrition (Bacteriological).—Study of the micro-organisms concerned in animal nutrition and their relations to the animal body.

Dr. MacNeal.

Prerequisite: 10 hours in Bacteriology and 20 hours in Chemistry.

113. Bacteriological Research.—Investigation of the microorganisms related to the animal body in health and disease.

Dr. MACNEAL.

114. MEAT PRESERVATION.—Investigation of the bacteria related to the ripening and decomposition of animal food products.

Dr. MACNEAL.

## DAIRY HUSBANDRY

#### COURSES FOR UNDERGRADUATES

- I. Milk.—The secretion, character, and composition of milk. Practice in testing with the Babcock test, the lactometer, and the different acid tests. Tests for the purity of milk and its adulteration. Lectures, reference readings, and laboratory practice. I; first half; I; second half. (3). Assistant Professor Lee, Mr. Hepburn.
- 2. DAIRY CATTLE.—The principal characteristics of the cow, special attention being given to the dairy type. Improvement of the herd through testing of cows and details of conducting the test. The value of continued use of pure-bred sires. Proper rearing of young stock for the dairy herd. Lectures, assigned readings, recitations, and practice in judging. I; first half; (2½). Mr. COLEMAN.
- 7. Factory Management.—This course is designed especially for creamery butter makers, factory cheese makers, and others wishing an extended course in butter and cheese making. It includes the study of special problems in the manufacture of butter and cheese; the management of creameries and cheese factories; the locating, planning, building, equipping, and operating of plants; creamery and cheese factory sanitation and products. Lectures, assigned readings, and laboratory work. II; second half; (3).

Assistant Professor LEE, Mr. HEPBURN.

Prerequisite: Dairy Husbandry 19.

8. CITY MILK SUPPLY.—Proper methods of handling and preparing milk and cream for direct consumption; preventing contami.

nation, pasteurizing, standardizing, modifying, bottling, transporting, and delivering. Certified milk; value of milk as a food. Milk commissions; legal requirements of cities and states. Lectures, reference readings, and laboratory practice. II; second half; (2½).

Prerequisite: Dairy Husbandry 1.

II. DAIRY BACTERIOLOGY.—The relation of bacteria to the dairy industry, showing where and to what extent milk may become contaminated; how contamination may be largely avoided. The relation of bacteria to the changes that take place in milk; the effect of methods of handling and of temperature upon the bacterial content of milk. The part that bacteria play in the manufacture of butter and cheese. The course consists largely of laboratory work, lectures, and assigned readings. I; first half; (21/2).

Prerequisite: Dairy Husbandry 1 and Botany 12.

- 12. INVESTIGATION AND THESIS.—Subject arranged with instructor. (5, 10). Professor Fraser, Assistant Professor Lee.
- 14. CHEDDAR CHEESE.—Practice in ripening and setting milk; cutting, cooking, and dipping the curd; cheddaring, milling, maturing, and salting curds; pressing and curing cheese. *I; second half;* (3).

  Assistant Professor Lee, Mr. Hepburn.

Prerequisite: Dairy Husbandry 1.

15. FANCY CHEESE.—The making and curing of different varieties, such as Swiss, Edam, Gouda, brick, cottage, etc. *II; second half;* (2½).

Assistant Professor Lee, Mr. Hepburn.

Prerequisite: Dairy Husbandry 1.

- 16. FEEDING AND CARE OF THE HERD.—Compounding rations for dairy cows. Every member of the class is given practice in feeding. Housing and care of the herd. Arrangements and construction of dairy barns, silos, and yards. I; second half; (2½). Mr. HAYDEN. Prerequisite: Animal Husbandry 21.
- 17. Pure-bred Herds.—This course includes the history of the dairy breeds, their characteristics, and adaptation to different climatic conditions and economical purposes. Importance of environment and food in securing and maintaining improvement in dairy cattle. A critical study of important families and the different breeds, giving particular attention to heredity. Selection of sires, weeding out and disposal of females, and surplus stock. Practice in scoring with the breed standards. Lectures, assigned readings, recitations. II; second half; (2½). Mr. COLEMAN.

Prerequisite: Dairy Husbandry 2.

19. BUTTER MAKING.—A study of the different systems of creaming milk and a comparison of different cream separators as regards efficiency under varying conditions; pasteurization, the use of different kinds of lactic ferments; ripening cream, churning; working; packing and scoring butter. II; first half; (3).

Assistant Professor Lee, Mr. Hepburn.

Prerequisite: Dairy Husbandry 1.

20. Comparative Dairying.—Dairying in different countries. The present condition of dairying in the United States, its magnitude and relation to other lines of farming. The influence of soil, climate, market conditions, and location in determining special lines of dairy development. A study of experiment station literature. Lecture and assigned readings. II; first half; (3). Mr. Hayden.

Prerequisite: Two years of University work.

21. ECONOMIC MILK PRODUCTION.—Difference in efficiency of individual cows showing the real relation of the cow and the herd to the profits derived from milk production. How to establish and perpetuate a dairy herd of the highest efficiency. A comparison of different rations for economic milk production. Crops to raise on a dairy farm and bearing this has on the economy of the ration. Organization of a dairy farm and a study of the whole conduct of the business of producing and disposing of milk at the greatest possible profit. II; (5).

Professor Fraser.

Prerequisite: Dairy Husbandry 1, 2, 16.

#### HORTICULTURE

#### COURSES FOR UNDERGRADUATES

- I. Principles of Fruit Growing.—An introductory course dealing with the fundamental principles of fruit culture. It embraces a study of location with reference to climate and markets, planting, soil treatment, pruning, protection from insects and diseases, harvesting, and marketing. Botany I or II should be taken before or with this course. Recitations, reference readings, and practical exercises. I; (5).

  Assistant Professor Lloyd, Mr. Howe.
- 2. SMALL FRUIT CULTURE.—A study of the strawberry, raspberry, blackberry, dewberry, currant, gooseberry, and cranberry. Each fruit is studied with reference to history, importance, and extent of cultivation, soil, location, fertilizers, propagation, planting, tillage, pruning, insect enemies, diseases, varieties, harvesting, mar-

keting, profits. This course should be preceded by Horticulture I. Recitations and reference readings with occasional practical exercises. II; (2).

Assistant Professor LLOYD.

- 3. VEGETABLE GARDENING.—An introductory course embracing a study of the general principles of vegetable gardening and a brief consideration of the cultural requirements of each of the common vegetables. II; (3).

  Assistant Professor LLOYD.
- 4. PLANT HOUSES.—A study of the construction, cost, and heating of various types of plant houses, together with a brief consideration of the management of greenhouse crops. II; (5).

Mr. Dorner.

- 5. PLANT PROPAGATION.—Grafting, budding, layering, making cuttings, pollination, seedage, etc. Text-book and laboratory work. II; first half; (2½).

  Mr. Dorner, Mr. Howe.
- 6. Nursery Methods.—A study of some details of nursery management and their relation to horticulture in general. Lectures and reference readings. II; first half; (2½). Mr. Howe.

Prerequisite: Horticulture 1, 5; Entomology 4.

7. Spraying.—The theory and practice of spraying plants, embracing a study of materials and methods employed in the combating of insects and fungous diseases. Recitations, reference readings, and laboratory work. II; second half; (2½).

Assistant Professor LLOYD.

Prerequisite: Horticulture 1, Entomology 4, Chemistry 1.

8. Orcharding.—A comprehensive study of pomaceous and drupaceous fruits. Special attention is given to considerations regarding the management of large commercial orchards, including the harvesting, grading, packing, storing, and marketing of the crop. The laboratory work includes practice in the identification and description of varieties, and the judging of fruit exhibits. *II*; (5).

Associate Professor Crandall, Mr. Howe.

Prerequisite: Horticulture 1; Botany 1 or 11.

9. Forestry.—This course embraces a study of forest trees and their natural uses, their distribution, and their artificial production. The relations of forest and climate are studied, and the general topics of forestry legislation and economy are discussed. II; (2).

Professor Burrill.

Prerequisite: Botany 1 or 11.

IO. LANDSCAPE GARDENING.—For all agricultural students. Lectures, reference readings, problems, and plant studies, with special reference to home surroundings. *I*; (3).

Assistant Professor WYMAN, Mr. MAJOR.

Prerequisite: Two years of University work, or special prepara-

11. Study of Cultivated Plants.—A study of the relationship and classification of certain economic and ornamental plants of the temperate zone, including practice in the identification of species. Lectures, assigned readings, and examination of living plants and herbarium specimens. *I*; (2).

Professor Blair, Associate Professor Crandall.

Prerequisite: Botany 2.

12. EVOLUTION OF HORTICULTURAL PLANTS.—A study of the modifications of plants under culture. This course deals with the history of plants now cultivated, their botanical classification and geographical distribution. It treats of the modifications that have taken place and the agencies through which development from wild types is traced. It includes a study of plant variation: the theoretical causes and the observed factors that influence variation, particularly food supply, climate, and cross-fertilization. I; second half; (2½).

Associate Professor Crandall.

Prerequisite: Two years of University work, including Horti-

culture 1 and Botany 2:

- 13. VITICULTURE.—A comprehensive study of the grape and its products. I; second half; (2½). Associate Professor CRANDALL. Prerequisite: Horticulture 1, 5.
- 14. Nut Culture.—The cultivation and management of nutbearing trees for commercial purposes. II; first half; (2½).

Associate Professor CRANDALL.

Prerequisite: Horticulture, 1, 5.

15. COMMERCIAL FLORICULTURE.—A study of the growing of plants and cut flowers for the wholesale and retail markets. The course includes a study of the soils best suited to various crops, the use of fertilizers, potting and shifting of plants, methods of watering, and the care and marketing of the product. Students taking this course should register for both semesters. I and II; (5).

Mr. Dorner.

Prerequisite: Horticulture 4, 5; Botany 2.

16. General Horticulture.—For students not registered in the College of Agriculture. A course covering the general principles and processes of fruit-growing, vegetable gardening, floriculture, and ornamental planting. *I*; (5).

Professor Blair, Associate Professor Crandall, Assistant Professor Lloyd, Assistant Professor Wyman.

17. COMMERCIAL HORTICULTURE.—A course giving practical training for those students intending to follow horticulture as a business. Work in houses, orchards, and gardens, suited to ability and requirements of each student. Special permission required for admission into this course. *I or II*; (5).

Assistant Professor LLOYD, Associate Professor CRANDALL.

18. EXPERIMENTAL HORTICULTURE.—A course for those intending to engage in professional horticulture or experiment station work. For advanced students. II; (5).

Professor Blair, Associate Professor Crandall, Assistant Professor Lloyd.

Prerequisite: Twenty hours' work in horticulture.

19. AMATEUR FLORICULTURE.—A study of window gardening and the growing of flowers upon the home grounds, including the study of containers, potting soils, fertilizers, the preparation and planting of flower beds, and the propagation and culture of various plants suitable for the window and garden. This course is especially recommended to students of Household Science. Both semesters' work should be taken. I and II; (1).

Mr. Dorner.

- 20. Market Gardening.—A laboratory course designed to give practical training in the growing and handling of vegetables for market. This course may be taken at the same time as the last half of Horticulture 3, or independently, after that course has been taken. II; second half; (2½). Assistant Professor Lloyd. Prerequisite: Horticulture 3.
- 21. Special Vegetable Crops.—In this course the work of each student is largely individual, being an exhaustive study of some vegetable or group of vegetables from a horticultural standpoint. Reference readings and field experiments. II; second half and summer vacation; (2½-5). Assistant Professor Lloyd.

Prerequisite: Horticulture 3.

22. Special Investigation and Thesis Work.—I, II; (5-10).

23. LANDSCAPE DESIGN.—For students taking the professional course in landscape gardening. A study of the composition of public and private grounds. Lectures, reference readings, and plans. Two years. I; second half; II; first half; (1½).

Assistant Professor WYMAN.

Prerequisite: Architecture 8, 17, 18.

- 24. Landscape Horticulture.—For students taking the professional course in landscape gardening. A study of hardy ornamental trees and shrubs with respect to character, suitability for landscape work, and culture. I; first half; II; second half; (1½).
- 25. Advanced Landscape Design.—Landscape and garden composition by means of plans and problems. I; second half; II; first half; (3).

  Assistant Professor Wyman.

Prerequisite: Horticulture 23.

26. Landscape Planting Plans.—Planting design by means of plans for the execution of landscape and garden planting, showing the arrangement of plants in detail. I; second half; II; first half; (2).

Assistant Professor Wyman.

Prerequisite: Architecture 8, 17, 18; Horticulture 24.

27. HISTORY AND PRINCIPLES OF LANDSCAPE GARDENING.—Lectures and reference readings, with incidental drawing. *I; second half; II; first half;* (1). Assistant Professor Wyman.

28. Exotics.—A study of tender decorative plants used in landscape gardening. *I; first half; II; second half;* (1).

Mr. DORNER.

29. Herbaceous Perennials and Annuals.—A study of hardy herbaceous plants suitable for landscape gardening work. *I; first half; II; second half;* (1). Mr. Dorner, Mr. Major.

#### COURSES FOR GRADUATES

102. Pomology.—Studies of special problems regarding the adaptation, propagation, cultivation, or pruning of small fruits.

Associate Professor Crandall.

103. OLERICULTURE.—Studies of special problems regarding the structure, cultural requirements, and improvement of vegetables.

Assistant Professor LLOYD.

108. Pomology.—Studies of special problems regarding the relationship, adaptation, improvement, propagation, cultivation, pruning, protection, preservation, or marketing of orchard fruits.

Professor Blair, Associate Professor Crandall.

- 109. Forestry.—Problems in general forestry and investigation of forest growths.

  Professor Burrill.
- 115. FLORICULTURE.—Studies of the horticultural status of various flowering plants, or in special problems in the culture of greenhouse plants.

  Mr. Dorner.

### THREMMATOLOGY

I. The principles of evolution as applied to the improvement of domesticated animals and plants. Variation, its extent and causes. Relative stability and instability of living matter. Reflex action, habit, and instinct, as bearing upon the question of inheritance of acquired characters. The origin, correlation, and disappearance of characters. Transmission and the laws of heredity as developed by the statistical method of study. Power of selection to modify type. II; (5).

Professor Davenport.

Prerequisite: Two years of University work, including ten

credits in biology.

2. Investigation and Thesis.—I, or II; (5).

Professor DAVENPORT.

## VETERINARY SCIENCE

In the department of veterinary science the student is instructed in subjects relating to the prevention of disease among domestic animals, also how to treat them when affected by disease, and the latest and best remedies for the cure of disease.

- 2. VETERINARY MATERIA MEDICA.—This subject, which treats of all the agents used for the cure of disease and injury, and for the preservation of health among domestic animals, is taught during the first and second semesters by lectures and text-books and illustrated by specimens of the drugs used in veterinary practice. *I*, *II*; (5).

  Professor McIntosh.
- 4. Anatomy, Physiology, and Diseases of Domestic Animals.—The subjects taught during the first semester are the outlines of veterinary anatomy, physiology, and diseases of the organs of mastication, digestive organs, respiratory organs, the organs of circulation, the lymphatic system, the urinary organs, and the skin. *I*; (5).

  Professor McIntosh.
- 5. ANATOMY, PHYSIOLOGY, AND DISEASES OF DOMESTIC ANI-MALS.—The subjects taught during the second semester are the anatomy, physiology, and diseases of the nervous system, bones,

joints, feet, eye, and generative organs. Epizootic and contagious diseases, catarrhal fever, pyemia, septicemia, rheumatism, tuberculosis, fistula of the withers, poll-evil, wounds, and the internal parasites of domestic animals. II; (5). Professor McIntosh.

6. CLINIC.—The free clinic is held every Saturday morning from ten to twelve o'clock. Animals are brought to be examined, operated upon, and prescribed for. This class is of signal benefit to the student, as he has the opportunity of seeing the cases and of assisting in the work. I, II; (1). Professor McIntosh.

#### AGRICULTURAL EXTENSION

The Department of Agricultural Extension offers courses of study to assist in determining what departments of agriculture are suitable for secondary school purposes, and how they should be taught, and in the discussion of agriculture at farmers' institutes and other public gatherings.

#### COURSES FOR UNDERGRADUATES

- I. Principles and Methods of High School Agriculture.—
  This course, designed for students who have had not less than two years' work in agriculture, will be devoted mainly to considering what features of agricultural science are best adapted to high school conditions, the best order and methods for their presentation, how to suit the course and instruction to the special interests and needs of each school community, what laboratory work shall be given, what apparatus may be used, what field experiments can be planned and executed. II; (5).

  Mr. Barto.
- 2. ELEMENTARY AGRICULTURE.—This course is for those students who are preparing to teach in secondary schools, especially for teachers in science who have had no work in agriculture. A study of the soil, its origin, nature, functions, properties, and classification; problems of temperature, aeration, control of moisture; enrichment and impoverishment of the soil; the plant, how it feeds and grows, its modes of reproduction, factors in crop production, rotation, value and use of legumes, selection and testing of seed, their types and breeds, care and management; dairying, production of milk, testing and care of milk; farm plans, farm machinery; economics of agriculture. II; (5).
- 3. FARMERS' INSTITUTE MANAGEMENT.—A study of the Farmers' Institute as a factor in our system of public education. This

course is designed to set forth principles underlying the organization and conduct of farmers' institutes and agricultural associations and to systematize into definite lines the knowledge acquired in college to the end that the student may render more distinct service in institute and agricultural associations. Lectures, assigned readings, and parliamentary practice. II; second half; (1).

Assistant Professor RANKIN.

### LAW

1. Contracts.—Huffcut & Woodruff's Cases, Anson on Contracts, and selected Illinois cases. I, (3); II, (3).

Professor GILBERT.

2. Torts.—Ames & Smith's Cases. I, (3); II, (2).

Professor CLARK.

3. REAL PROPERTY.—Gray's Cases, (Vols. I and II). II; (3).

Associate Professor Northrup.

4. Common Law Pleading.—Andrews' Stephens Pleading. II;

5. CRIMINAL LAW.—Knowlton's Cases.—I; (4).

Professor Hughes.

6. Personal Property.—Gray's Cases, (Vol. I). I; (3).

Mr. Cosgrove.

7. Domestic Relations.—Smith's Cases on the Law of Persons.
II; (2). Professor Green.

8. Evidence.—Thayer's Cases. I, (2); II, (2).

Professor Hughes.

9. SALES.—Williston's Cases. II; (3). Professor CLARK.

10. REAL PROPERTY.—Gray's Cases, (Vol. III). I; (2).

Associate Professor Northrup.

II. AGENCY.—Wambaugh's Cases. II; (3). Professor Green.

12. EQUITY.—Scott's Cases. I, (2); II, (3).

Professor GILBERT.

13. Damages.—Gilbert and Mechem's Cases. II; (2).

Professor GILBERT.

14. CARRIERS.—McClain's Cases. II; (3) Professor Green.

15. BILLS AND NOTES.—Huffcut's Cases. I; (3).

Professor GILBERT.

16. TRUSTS.—Ames's Cases. I; (3). Professor CLARK.

17. PRIVATE CORPORATIONS.—Smith's Cases. I, (2); II, (2)
Mr. COSGROVE.

18. WILLS.—Gray's Cases, (Vol. IV). I; (3).

Associate Professor Northrup.

- 19. Partnership.—Ames's Cases. II; (2). Professor Hughes.
- 20. EQUITY PLEADING.—Shipman on Equity Pleading. II; (2).

  Professor Hughes.
- 21. SURETYSHIP.—Ames's Cases. II; (3). Professor CLARK.
- 22. Constitutional Law.—McClain's Cases. I, (2); II, (2). Professor Green.
- 23. Mortgages.—Kirchwey's Cases. I; (2). Mr. Cosgrove.
- 24. MUNICIPAL CORPORATIONS.—Abbott's Cases. II; (2).

  Mr. Cosgrove.

25. BANKRUPTCY.—Williston's Cases. I; (2)

Associate Professor Northrup.

- 26. MOOT COURT.—I, (2); II, (2). Professor HARKER.
- 27. FUTURE INTERESTS IN PROPERTY.—Gray's Cases, (Vol. V). II; (3).

  Associate Professor Northrup.
  - 28. Insurance.—Wambaugh's Cases. II; (2).

Professor Green.

- 30. Public International Law.—Lawrence's Principles and Scott's Cases. II; (3). Professor Garner.
  - 31. Conflicts of Laws.—Beale's Cases.—I; (2).

Professor CLARK.

- 32. QUASI-CONTRACTS.—Woodruff's Cases. II; (3).
  [Not given in 1908-09.] Mr. Cosgrove.
- B. COMMERCIAL LAW.—The work covers the chief principles underlying the law of contracts in general, negotiable instruments, agency, partnership, business corporations, sales of personal property, bailments and carriers, guaranty and suretyship, insurance and real estate. Spencer's Elements of Commercial Law. II; (3).

Professor Hughes.

This course is not a technical law course; is intended for students of commerce, etc., and may not be counted toward the law degree.

# LIBRARY SCIENCE

I. ELEMENTARY LIBRARY ECONOMY.—Instruction follows the regular library routine, including trade bibliography, order, accession, classification, book numbers, shelf records, binding, and cataloging. The course consists of lectures and problems. Follow-

ing the instruction in cataloging one month is devoted to cataloging books for the University library. I, II; (5).

Assistant Professor PRICE, Miss CURTIS.

2. ELEMENTARY REFERENCE.—The aim of this course is to train students in methods of research and to familiarize them with the principal reference books, such as indexes, dictionaries, encyclopedias, atlases, hand-books of general information, quotations, statistics, etc. Reference lists are prepared for special classes and for literary societies, and the students have practical work in the reference department of the library. *I*, *II*; (3).

Assistant Professor SIMPSON.

- 3. Selections of Books.—Lectures are given upon the method of selecting books for libraries of different types and sizes, followed by class discussions of books which may be considered as representative of various classes. The course also includes instruction and practice in writing annotations for catalog cards, bulletins, and reading lists. *I*, *II*; (2). Assistant Professor PRICE.
- 4. ELEMENTARY LABORATORY COURSE.—The purpose of this course is to familiarize the students with the minor work of a library and to teach them to make and to use the records in the University library. Practical work in the various departments of the library is assigned to each student as soon as possible after the work has been studied in other courses. One hour each week is devoted to a report from the class of the work done the previous week, thus giving the entire class the benefit of the experience of each member. I, II; (3).

Prerequisite: Library 1, 2.

5. Advanced Library Economy,—Advanced and comparative cataloging and classification. Problems in organizing and reorganizing libraries. The class discusses questions affecting the founding and government of libraries, library legislation, library architecture, library administration, and current problems in public and college library work. Visits are made to Chicago libraries. This course includes one hour of Library 14. I, II; (5).

Professor Wilson.

Prerequisite: Library 4.

6. Bibliography.—Lectures by professors from various departments on the principles underlying selection of books. These lectures are supplemented with class work and problems. *I, II;* (4). Various instructors.

7. HISTORY OF LIBRARIES.—The history of the leading ancient, mediæval, and modern libraries. The library movement in the United States. Libraries are studied by types and by countries, with particular attention to the relation between the social, intellectual, and political movements in each country and the growth of libraries. This course is supplemented with Library 14 in a study of library reports and other publications. *I*; (2).

Assistant Professor SIMPSON.

8. ADVANCED REFERENCE.—Advanced reference books, including important transactions of societies, periodicals, special indexes, and other publications of special value in reference work in a university library. Reports on current events. Emphasis is laid upon the problems in difficult research work. This course is intended primarily for students who are preparing for college library positions, but may be elected by any one who has satisfactorily completed Elementary Reference. 1; (2).

Assistant Professor SIMPSON.

Prerequisite: Library 2.

9. Book Making.—A brief history of writing, of the early forms of books, of the invention and spread of printing, of book illustration, and of the art and practice of binding. II; (2).

Professor Wilson.

TO. ADVANCED LABORATORY COURSE.—This course consists of two hours' work daily in the various departments of the University library, giving the students practical experience in all lines of library work. One hour each week is devoted to reports of the work done the previous week, so that each student has the benefit of the experience of the others. I, II; (5).

Miss Curtis.

Prerequisite: Library 4.

12. General Reference.—This course is offered to all students. It comprises lectures on the catalog, classification, the reference-room, the reading-room, and groups of books, such as indexes, dictionaries, encyclopedias, atlases, hand-books of general information, hand-books of history, statistics, quotations, etc. I; (2).

Miss Forrest.

13. Public Documents.—A study of the formation of the government as expressed in its publications, the methods of printing and distributing the federal documents, and a study of these documents and their various indexes for their value as reference books and for correct methods of cataloging. Practical reference questions are given, and a sample catalog is made illustrating the various

principles. The course is continued in the second semester as an elective, when some of the more important state documents are also studied. *I, II;* (2). Professor Wilson.

Prerequisite: Library 1, 2.

- 14. LIBRARY EXTENSION.—Fourth and fifth year students meet together once a week to examine library publications and to consider them in their relation to library history, biography, and administration. Once a week the fourth year students alone meet to discuss such topics as library associations, library schools, library commissions, traveling libraries, home libraries, and principles underlying the relation of the library to the public. *I, II;* (2). Professor Wilson.
- 15. Seminary in Library Economy.—This course takes the place of the thesis formerly required. Library economy publications are studied and practice is given in research work. *I, II;* (2). Professor Wilson.

## MILITARY SCIENCE

\*I. THEORETICAL INSTRUCTION.—Infantry drill regulations. For all male students. II; (1).

Mr. Ercanbrack, Mr. Simpson, Mr. Stout, Mr. Parkin.

- \*2. Practical Instruction.—Infantry.—School of the soldier; company and battalion; regimental ceremonies. Artillery.—School of the cannoneer and battery dismounted. Freshman and sophomore years. I, II; (1).

  Professor Fechet.
- \*3. Theoretical Instruction.—Sophomores. Drill regulations and military administration. *I, II;* (1). Juniors. Field service regulations. *I;* (1). Seniors. Field engineering. *I, II;* (1). This course is obligatory upon commissioned officers and sergeants, optional with corporals, and open to others.

  Professor Fechet.

AUTHORIZED TEXT-BOOKS.—United States Drill Regulations; United States Army Regulations; Manual of Field Engineering (Beach); Field Service Regulations, United States Army.

<sup>\*</sup>Freshmen and sophomores are required to drill one and one-half hours each week until March 15th; after that date, three hours each week. Freshmen attend recitations one hour a week in second semester. Assignments to classes and companies are made by the Commandant of Cadets according to circumstances.

# PHYSICAL TRAINING

#### FOR MEN

I. GYMNASIUM PRACTICE.—Two hours gymnasium drill each week. Required of freshmen. I, II; arrange time; (1).

Mr. Hai

2. GYMNASIUM PRACTICE.—Practice two hours each week in advanced heavy apparatus work. I, II; arrange time; (1).

Mr. HANA.

#### FOR WOMEN

- 7. Practice.—Class exercise in the gymnasium and field. Required of freshmen. I, II; (1). Miss Moulton, Miss Williams.
  - 8. SECOND YEAR.—Elective. I, II; (1).

Mrs. Lincoln, Miss Moulton, Miss Williams.

- 9. Hygiene.—The same as Physiology 6, which see. Required of all freshmen. I; (1). Dean Kollock, Mrs. Lincoln.
- IO. TEACHERS' COURSE.—Third Year, Special. Two hours' practice in the public schools. One hour theory. I, II; (1).

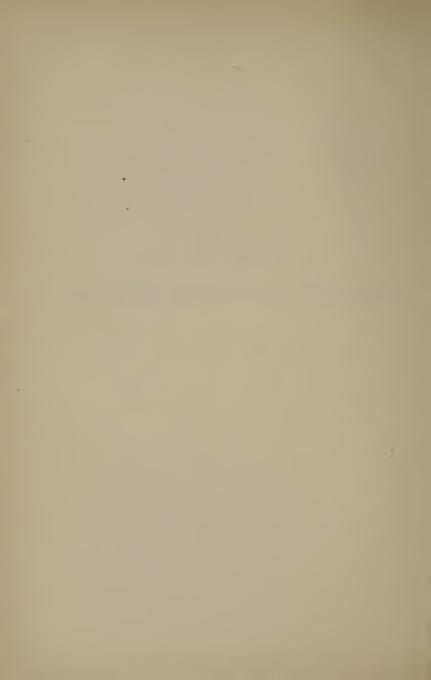
Mrs. LINCOLN.

II. TEACHERS' COURSE.—Fourth Year, Special. Three hours teaching in the gymnasium. One hour theory. Credit by special recommendation.

Mrs. Lincoln.



# PART IV AUXILIARY SCIENTIFIC BUREAUS



# AUXILIARY SCIENTIFIC BUREAUS

# THE AGRICULTURAL EXPERIMENT STATION

#### STAFF

EUGENE DAVENPORT, M.Agr., LL.D., Director
CYRIL GEORGE HOPKINS, Ph.D., Vice-Director
THOMAS JONATHAN BURRILL, Ph.D., LL.D., Botanist
STEPHEN ALFRED FORBES, Ph.D., Consulting Entomologist
DONALD McIntosh, V.S., Consulting Veterinarian
HENRY LEWIS RIETZ, Ph.D., Statistician
CATHERINE McCALLUM McIntyre, Secretary
In Agronomy—

CYRIL GEORGE HOPKINS, Ph.D., Chief

LOUIE HENRIE SMITH, Ph.D., Assistant Chief, Plant Breeding Jeremiah George Mosier, B.S., Assistant Chief, Soil Physics James Harvey Pettit, Ph.B., Assistant Chief, Soil Fertility Albert Nash Hume, M.S., Assistant Chief, Crop Production Jerome Edward Readhimer, B.S., Superintendent, Soil Experiment Fields

Orlo Dorr Center, B.S., First Assistant, Crop Production William George Eckhardt, B.S., Assistant, Soil Fertility Leonard Hegnauer, B.S., Assistant, Crops Axel Ferdinand Gustafson, B.S., Assistant, Soil Physics Ernest Van Alstine, B.S., Assistant, Chemistry Clyde Hadley Myers, B.S., Assistant, Chemistry Joseph Paul Aumer, B.S., Assistant, Chemistry Arthur Lumbrick, B.S., Assistant, Crop Production Ora Stanley Fisher, B.S., Assistant, Soil Fertility Clarence Chester Logan, B.S., Assistant, Soil Physics Jay Boardman Park, B.S., Assistant, Chemistry John Willard Calvin, B.S., Assistant, Chemistry In Animal Husbandry—

HERBERT WINDSOR MUMFORD, B.S., Chief HARRY SANDS GRINDLEY, Sc.D., Chief, Animal Chemistry WILLIAM DIETRICH, M.S., Assistant Chief, Swine Husbandry PHILIP BOVIER HAWK, Ph.D., Assistant Chief, Physiological Chemistry

WARD J. MACNEAL, Ph.D., M.D., Assistant Chief, Bacteriology LOUIS DIXON HALL, M.S., Assistant Chief, Animal Husbandry RUFUS CHAUNCEY OBRECHT, M.S., Assistant Chief, Horse Husbandry

WALTER CASTELLA COFFEY, B.S., First Assistant, Sheep Husbandry

HENRY ORSON ALLISON, B.S., Assistant, Animal Husbandry Frederic William Gill, B.S., First Analyst, Animal Husbandry In Dairy Husbandry—

WILBUR JOHN FRASER, M.S., Chief

CARL EMIL LEE, B.S., Assistant Chief, Dairy Manufactures
CASSIUS CLAY HAYDEN, B.S.A., Assistant, Dairy Husbandry
JESSE MELANGTHON BARNHART, B.S., Assistant Chemist, Dairy
Husbandry

CLYDE BESTOR COLEMAN, B.S., First Assistant, Dairy Husbandry NELSON WILLIAM HEPBURN, B.S., Assistant, Dairy Manufactures ROYDEN EARL BRAND, Assistant, Dairy Husbandry WALTER L. GAINES. B.S., Assistant, Dairy Husbandry

In Horticulture-

JOSEPH CULLEN BLAIR, M.S.A., Chief
CHARLES SPENCER CRANDALL, M.S., Chief, Plant Breeding
JOHN WILLIAM LLOYD, M.S.A., Assistant Chief, Olericulture
RALPH BARNARD HOWE, B.S., Assistant, Pomology
OSCAR S. WATKINS, B.S., Assistant Chemist, Horticulture
HERMAN BERNARD DORNER, B.S., Assistant, Floriculture
IRA SANFORD BROOKS, B.S., Assistant, Pomology

In Botany-

THOMAS JONATHAN BURRILL, Ph.D., LL.D., Chief

By an act approved March 2, 1887, the national government appropriated \$15,000 per annum to each state for the purpose of establishing and maintaining, in connection with the colleges founded upon the congressional act of 1862, agricultural experiment stations, "to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." Under this provision the Agricultural Experiment Station for Illinois was founded in 1888 and placed under the direction of the Trustees of the University, and a part of the University farm, with buildings, was assigned for its use.

The Federal grants to the Station have been liberally supplemented with state appropriations, until its revenues have become the largest of those of similar institutions throughout the world.

Investigations are conducted in the growing and marketing of orchard fruits, the methods of production of meats and of dairy goods, the principles of animal breeding and of nutrition, and in the improvement and the economic production of crops. All the principal types of soil of the state are being studied in the laboratory under glass and in the field. A soil survey is in progress which when finished will map and describe the soil of every farm of the state down to an area of ten acres. Twenty to thirty fields and orchards are rented in various portions of the state for the study of local problems, and assistants are constantly on the road for the conduct of experiments or to give instruction to producer or consumer. The results of investigation are published in bulletins, which are issued in editions of 50,000, and distributed free of charge.

Much of this work is of exceptional interest to students, especially of graduate grade, and it is freely available for this purpose, so far as is consistent with the interests of the Station.

# ENGINEERING EXPERIMENT STATION

#### STAFF

EDMUND JANES JAMES, PH.D., LL.D., PRESIDENT

LESTER PAIGE BRECKENRIDGE, Director

ROY WEAVER RUTT, B.S., Assistant to the Director

ELIZABETH ANDREWS SWIFT, Secretary

The heads of the departments in the College of Engineering 1

#### SPECIAL INVESTIGATORS

HERBERT FISHER MOORE, M.M.E., Assistant Professor in the department of Theoretical and Applied Mechanics

KENNETH GARDNER SMITH, A.B., B.S., Assistant Professor (Mechanical Engineering) in charge of Engineering Experiment Station Extension

JOHN McBeath Snodgrass, B.S., Associate in the department of Mechanical Engineering

DUFF ANDREW ABRAMS, B.S., Associate in the department of Theoretical and Applied Mechanics

THOMAS HAMER AMRINE, E.E., First Assistant in the department of Electrical Engineering

WARD REID ROBINSON, B.S., First Assistant in the department of Theoretical and Applied Mechanics

FRANKLIN WALES MARQUIS, B.S., First Assistant in the department of Railway Engineering

FRANK LYMAN BUSEY, M.E., First Assistant in the department of Mechanical Engineering

WILFRED FORREST WHEELER, B.S., First Assistant in the department of Chemistry

### RESEARCH FELLOWS

CLARENCE EUGENE NOERENBERG, B.S., Architecture WILLARD LEO EGY, B.S., Physics WILBUR CLINTON MADDOX, B.S., Electrical Engineering WILLIAM DOKE SCOTT, M.E., Mechanical Engineering ANTONIO GUELL, M.S., M.E., Electrical Engineering DANIEL CLEVELAND FABER, B.S., Railway Engineering WILLIS APPLEFORD SLATER, B.S., Theoretical and Applied Mechanics FRANK WALKER BLISS, B.S., Chemistry

<sup>&</sup>lt;sup>1</sup>For the names of these heads of departments, see Faculty of the College of En gineering, pp. 93 ff.

The Engineering Experiment Station was established by action of the Board of Trustees, December 8, 1903. Its purposes are the stimulation and elevation of engineering education, and the study of problems of special importance to professional engineers and to the manufacturing, railway, mining, and industrial interests of the State and the country. Additional apparatus and equipment have been purchased and installed in the laboratories of the College of Engineering to further such research work. The practical nature of the investigations and their adaptation to present-day needs are assured by means of conferences with committees of the leaders of the State's industrial activities.

The control of the Station is vested in the heads of the several departments of the College of Engineering. These constitute the Station Staff, and, with the Director, determine the character and extent of the investigations to be undertaken.

Up to the present time, twenty-five bulletins, of value to engineering science, have been published. The experiments have related chiefly to tests of concrete, reinforced concrete beams and columns, tests of high-speed tool steels, the resistance of tubes to collapse, fuel tests, the holding power of railroad spikes, effect of scale on heat transmission, a study of roof trusses, stresses in chain links, tests of electric lamps, tests of a liquid air plant, determination of voids, settlement, and weight of crushed stone, the lighting of country homes by private electric plants, etc.

# STATE LABORATORY OF NATURAL HISTORY

EDMUND JANES JAMES, Ph.D., LL.D., PRESIDENT.

STAFF

Professor Stephen Alfred Forbes, Ph.D., LL.D., Director Charles Arthur Hart, Systematic Entomologist Mary Jane Snyder, Secretary Frane Elmer Wood, A.B., Assistant in Biological Survey Frank Smith, A.M., Zoologist Grace Osgood Kelley, B.L.S., Librarian

In 1885 the legislature passed a bill transferring the State Laboratory of Natural History from the Illinois State Normal University to the University of Illinois. This laboratory was created for the purpose of making a natural history survey of the State, the results of which should be published in a series of bulletins and reports, and for the allied purpose of furnishing specimens illustrative of the flora and fauna of the state to the public schools and to the State museum. For these purposes direct appropriations are made by the legislature from session to session. A large amount of material has been collected, and extended publications have been made in both the forms above mentioned.

# STATE ENTOMOLOGIST'S OFFICE

EDMUND JANES JAMES, Ph.D., LL.D., PRESIDENT

#### STAFF

STEPHEN ALFRED FORBES, Ph.D., LL.D., State Entomologist
CHARLES ARTHUR HART, Systematic Entomologist
Leader A. M. Chief Hartiveland Leaders

JAMES ALEXANDER WEST, A.M., Chief Horticultural Inspector and Field Assistant

LINDLEY M. SMITH, B.S., Field Assistant JOHN JUNE DAVIS, B.S., Field Assistant

ALECANDRÉ ARSÉNE GIRAULT, B.S., Insectary Assistant until September I, 1908

GEORGE ETHELBERT SANDERS, B.S.A., Field Assistant

Wesley Pillsbury Flint, Manager of Insecticide Operations

FLOY WAY, Stenographer

ERNEST HARLEN SCOTT, Stenographer

The work of the State Entomologist's Office has been done at the University of Illinois since January, 1885; and by legislative enactment in 1899 it was permanently established at the University, the Trustees of which are required by that act to provide for the Entomologist and his assistants such office and laboratory rooms as may be necessary to the performance of their duties.

It is the duty of this officer to investigate all insects dangerous to any valuable property or dangerous to the public health, and to conduct experiments for the control of injuries to person or property by insects, publishing the results of his researches biennially in his official report. He is also required to inspect and certify annually all Illinois nurseries, and to maintain a general supervision of the horticultural property of the State as respects its infestation by dangerous insects and its infection with contagious plant disease.

Twenty-four reports have now been published by the Entomologist, eleven of them since the transfer of his office to the University.

## STATE WATER SURVEY

EDMUND JANES JAMES, Ph.D., LL.D., PRESIDENT

#### STAFF

EDWARD BARTOW, Ph.D., Director THOMAS JONATHAN BURRILL, Ph.D., LL.D., Consulting Bacteriologist SAMUEL WILSON PARR, M.S., Consulting Chemist ARTHUR NEWELL TALBOT, C.E., Consulting Engineer LEWIS ISAAC BIRDSALL, A.B., Chemist FRANK BACHMANN, Bacteriologist WALTER G. STROMQUIST, Assistant ANDREW JACOBSON, B.S., Assistant ANDREW WATSON SELLARDS, A.M., Summer Assistant

ANDREW CLIFFORD WILKINS, Clerk

The Chemical Survey of the waters of the State was begun in the latter part of September, 1895. In June, 1897, the legislature authorized the continuance of the work and directed the Trustees of the University to establish a chemical and biological survey of the waters of the State. The purpose of the Survey is to collect facts and data concerning the water supplies of the State; to make such chemical and biological examination and analyses as shall serve to demonstrate their sanitary condition; to determine standards of purity of drinking waters for the various sections of the State, and to publish the results of these investigations.

The Survey is a division of the department of chemistry of the University of Illinois, and special laboratories are equipped in

the Chemical Laboratory for conducting the work.

# STATE GEOLOGICAL SURVEY

#### Commission

GOVERNOR CHARLES S. DENEEN, Chairman PROFESSOR T. C. CHAMBERLIN, Vice-Chairman PRESIDENT EDMUND JANES JAMES, Secretary

#### STAFF

HARRY FOSTER BAIN, Director
FRANK WALBRIDGE DEWOLF, Assistant State Geologist
EDWARD BARTOW, Consulting Chemist in Water Analysis
ULYSSES S. GRANT, Consulting Geologist in Lead and Zinc Work
SAMUEL WILSON PARR, Consulting Chemist in Coal Investigations
CHARLES WESLEY ROLFE, Consulting Geologist in Clay Investigations
ROLLIN D. SALISBURY, Consulting Geologist in Preparation of Educational Series

J. A. Udden, Geologist in Charge of Deep Well Records
Thomas Edmund Savage, Geologist
Stuart Weller, Geologist
Edwin Fuller Lines, Assistant Geologist
Raymond Silliman Blatchley, Assistant Geologist
William Henry Herron, Geographer
E. W. McCrary, Engineer

ROYDEN JOHNSTON TAYLOR, Assistant Hydrographer GILBERT M. WOOD, SAMUEL ABRAMS, DAISY OPAL LOCKWOOD, Clerks

The Forty-fourth General Assembly passed an act, in force July I, 1905, providing for the establishment at the University of Illinois of a Bureau, to be known as the State Geological Survey. The Bureau is under the control of a commission, of which the President of the University is an ex-officio member. The purpose of the Survey is primarily the study and exploration of the mineral resources of Illinois. Field parties are organized for the investigation of oil, clay, coal, stone, artesian water, cement materials, road materials, and for general scientific investigations. The Bureau is charged also with the duty of making a complete topographical and geological survey of the State. The topographical surveys are now being carried on in connection with the United States Geological Survey. These will lead to the publication of a series of bulletins and of maps, eventually covering the entire State. The Forty-fifth General Assembly further charged the commission with the duty of making surveys and studies of lands subject to overflow, with a view

to their reclamation. Work is now being carried on in co-operation with the Internal Improvement Commission, the United States Geological Survey, and the United States Department of Agriculture, along the Sangamon, Kaskaskia, Big Muddy, Wabash, and Embarrass rivers. The laboratory work is done in connection with various department laboratories of the University. The equipment includes a working library, maps, and a rapidly growing collection, illustrating the geological and the economical resources of the State.

# PART V LISTS OF STUDENTS, ETC.



# LIST OF STUDENTS

## 1907-1908

# LITERARY, TECHNOLOGICAL, SCIENTIFIC, AND AGRICULTURAL DEPARTMENTS

#### GRADUATE SCHOOL

Abrams, Duff Andrew, B.S., 1905, Murphysboro, Civil Engineering. Allinson, May, A.B., 1906, Champaign, History.

Allison, Fred Gray, B.S., 1906, Alpha, Physiological Chemistry.

Allison, Harry Orson, B.S., 1906, Alpha, Economics.

Alvord, Clarence Walworth, A.B., (Williams Coll.), 1891, History, Amrine, Thomas Hamer, B.S., 1906, Vermont, Electrical En-

gineering.

Armeling, Carl Elmer, A.B., 1904, Mason City, Latin.

<sup>1</sup>Anders, Edwin, B.S., 1905, Newark, Sociology.

<sup>1</sup>Archer, Arthur Ward, B.S., 1907, Little Rock, Ark., Architecture.

<sup>1</sup>Armstrong, Charles Edward, B.S., 1905, Danville, Electrical Engineering.

<sup>1</sup>Baker, Howard Newell, A.B., 1907, M.D., (Hahnemann Medical Coll.), 1905. Homer, Psychology.

Baxter, Miles Emile, B.S., 1906, Nauvoo, Mechanical Engineering. Beard, Abner Hamilton, B.C.E., (Univ. of Arkansas), 1905, Wynne, Ark., Municipal and Sanitary Engineering.

Bench, Albert Rittscher, B.S., 1906, Galena, Mechanical Engineering.

Bennett, Elizabeth Ruth, A.B., 1903, (Ohio Univ.), E. Stroudsburg, Pa., Mathematics.

Birdsall, Lewis Isaac, A.B., (Williams Coll.), 1907, Patterson, N. Y., Chemistry.

Blaisdell, Daisy Luana, A.M., (Smith Coll.), 1893, Chicopee Falls, Mass., German.

Bradford, Bernice Margaret, A.B., (Univ. of Mich.), 1907, Sycamore, German.

Briscoe, Charles Francis, A.B., (Ind. Univ.), 1899, A.M., 1905, Urbana, Botany.

Brownson, Howard Gray, A.B., 1906, Centralia, Economics.

<sup>&</sup>lt;sup>1</sup>In absentia.

<sup>1</sup>Buchanan, John Lee, B.S., 1904, Schenectady, N. Y., Electrical Engineering.

<sup>1</sup>Bullard, Benjamin Franklin, B.L., 1882, Chicago, History.

Burlison, William Leonidas, B.S., (Okla. Agri. & Mech. Coll.), 1905, Stillwater, Okla., Agronomy.

Busey, Marietta Ruth, A.B., (Vassar Coll.), 1899, Urbana, Psychology.

Carman, Mrs. Maude Wheeler Straight, A.B., (Wellesley Coll.), 1892, Urbana, History.

<sup>1</sup>Carr, Maurice LeRoy, B.S., 1905, Avon, Electrical Engineering.

Carscallen, George Ernest, A.B., (Wabash Coll.), 1906, Frankfort, Ind., Mathematics.

Carter, Clarence Edwin, A.M., (Univ. of Wis.), 1906, Urbana, History.

Center, Orlo Dorr, B.S., 1905, Champaign, Agronomy.

Chiles, James Alburn, A.M., (Vanderbilt Univ.), 1898, LL.B., (Berlin Univ.), 1904, Urbana, German.

Clark, Samuel C, B.S., (Univ. of Chicago), 1900, Urbana, Chemistry.

Clark, Vinton Albert, M.S., (Univ. of Vermont), 1904, Champaign, Philosophy.

Coffey, Walter Castella, B.S., 1906, Urbana, Animal Husbandry.

<sup>1</sup>Craig, Stephen James, B.S., 1906, Wilmington, Agronomy.

<sup>1</sup>Cresap, Ernest Wilfred, A.B., 1904, Coshocton, O., English.

Crosthwait, George Ashley, B.S., 1903, Urbana, Botany.

Dancey, Lloyd Slote, A.B., 1907, Fairbury, Physics.

Davis, Grant Train, A.B., (Univ. of Mich.), 1903, Urbana, Chemistry.

<sup>1</sup>Davis, John Wolfersperger, B.S., 1904, *Chicago*, Civil Engineeering. Day, Anna Edith, A.B., (*Illinois Coll.*), 1907, *Jacksonville*, Classics.

DeMotte, Ruby Thorne, A.M., 1906, Urbana, Botany.

Denton, William Wells, A.B., (Univ. of Mich.), 1907, Detroit, Mich., Mathematics.

Dick, Carl Rankin, B.S., 1907, Bloomington, Architectural Engineering.

Dunipace, Joseph Evans, A.B., (Oberlin Coll.), 1905, A.M., (Leland Stanford Junior Univ.), 1906, Toledo, O., Chemistry.

Dunkin, William Van, B.S., 1903, *Urbana*, Mechanical Engineering. Drew, Rosa Sophia, A.B., (*Iowa Coll.*), 1907, *Grinnell, Ia.*, Botany. Eckhardt, William George, B.S., 1905, *Buffalo Prairie*, Chemistry. <sup>1</sup>Eddy, Clarence Leroy, B.S., 1900, *Weldon, Ia.*, Civil Engineering.

<sup>&</sup>lt;sup>1</sup>In absentia.

Egy, Willard Leo, B.S., 1907, Urbana, Physics.

Emmett, Arthur Donaldson, A.M., 1905, Kansas City, Mo., Animal Chemistry.

Emmons, Clyde Wilbur, A.B., (Albion Coll.), 1903, Champaign, Mathematics.

Engstrom, Roy Victor, B.S., 1904, St. Paul, Minn., Civil Engineering. Ernest, Thomas Reuben, A.B., 1907, Swanwick, Chemistry.

Ewing, Henry Ellsworth, A.B., 1906, Arcola, Entomology.

Farwell, Stanley Prince, B.S., 1907, Oklahoma City, Okla., Electrical Engineering.

Fawcett, Mrs. Mary Eliza, A.B., (Ohio State Univ.), Columbus, O., English.

<sup>1</sup>Fiske, Clarence Wilson, B.S., 1903, *Moline*, Mechanical Engineering.

Flint, Percy Wightman, B.S., (College of Charleston), 1904, Charleston, S. C., Chemistry.

Forbes, Ethel Clara Schumann, A.B., 1903, Urbana, French.

Forsyth, Chester Hume, A.B., (Butler Coll.), Trafalgar, Ind., Mathematics.

Francis, Charles Kenworthy, A.M., (Brown Univ.), 1904, Urbana, Applied Chemistry.

<sup>1</sup>Fucik, Edward James, B.S., 1901, Chicago, Civil Engineering.

Garlough, Carlton D, A.M., (Hillsdale Coll.), 1900, Stanford, Mathematics.

<sup>1</sup>Gaston, Newton David, B.S., 1904, *Moline*, Mechanical Engineering. <sup>1</sup>Gay, Mary Louise, A.B., 1906, *Rockbort*, Modern Languages.

Gernert, Walter Byron, B.S., (Kansas State Agri. Coll.), 1907, McPherson, Kan., Agriculture.

Gibbs, Charlotte Mitchell, A.B., 1904, Champaign, Household Science.

Gilbert, John Philo, A.B., 1905, Urbana, Entomology.

Gill, Frederic Williams, B. S., 1906, *Urbana*, Animal Chemistry. Godeke, Harry Frederick, B.S., 1905, *Olney*, Mechanical En-

Goff, Mary Emma, A.B., 1902, Champaign, English. Gore, Adolph, A.B., 1905, Marion, Political Science.

Greaves, Joseph Eames, B.S., (Utah Agri. Coll.), 1904, Logan, Utah. Agronomy.

Greene, Elizabeth Grosvenor, A.B., 1904, B.L.S., 1905. Champaign, Philosophy.

Gustafson, Azel Ferdinand, B.S., 1907, Aledo, Botany.

gineering.

<sup>&</sup>lt;sup>1</sup>In absentia.

<sup>1</sup>Gutmann, Ludwig, B.S., 1904, St. Louis, Mo., Electrical Engineering.

Hachmeister, Henry William, B.S., 1906, Chicago, Chemistry.

Hammond, James Weston, B.S., (Ohio State Univ.), 1906, Urbana, Animal Husbandry.

Hargarger, Sada Annis, A.B., (Ohio State Univ.), 1906, Columbus, O., English.

<sup>1</sup>Harmon, Ivan Guy, B.S., 1907, Effingham, Civil Engineering.

Harrison, Bruce Magill, B.S., (Ottawa Univ.), 1905, Ottawa, Kan., Zoology.

Hayden, Cassius Clay, B.S., (Ohio State Univ.), 1903, Urbana, Dairy Husbandry.

Hellmann, Carl August, B.S., 1906, Chicago, Electrical Engineering. Henninger, Carl A.B., (Indiana Univ.), 1907, Indianapolis, Ind., Modern Languages.

Hill, Alva Jay, A.B., (Ohio State Univ.), 1906, Urbana, Economics. <sup>1</sup>Hillman, Frank William, B.S., 1905, Chicago, Civil Engineering.

Hilmer, William Charles, A.M., (German Wallace Coll.), 1903, Urbana, German.

<sup>1</sup>Hines, Edward George, B.S., 1900, New Orleans, La., Reinforced Concrete.

Hinds, Sherwood, B.S., (Mich. Agri. Coll.), 1905, Stanton, Mich., Mathematics.

Hoff, Hans Jacob, A.B., (Bethany Univ.), 1901, Rexford, Kan., Modern Languages.

Hoke, Charles Edward, B.S., (Okla. Agri. and Mech. Coll.), 1907, Quay, Okla., Agronomy.

Homberger, Alfred Wilhelm, A.B., (Univ. of Wis.), 1905, Sauk City, Wis., Chemistry.

<sup>1</sup>Hoppin, Charles Albert, B.S., 1901, *Milwaukee, Wis.*, Mechancial Engineering.

Howe, Paul Edward, A.B., 1906, Urbana, Chemistry.

<sup>1</sup>Howell, Leslie Dillon, B.S., 1907, Ipava, Architecture.

Hummel, Adam Albert, B.S., 1907, Urbana, Botany.

Hummel, Sarah Matilda, A.B., 1907, Urbana, Household Science.

Iida, Yoshifusa, G.Agr., (Tokio Imperial Univ.), Tokio, Japan, Animal Husbandry.

<sup>1</sup>Ireland, Washington Parker, B.S., 1903, *Chicago*, Civil Engineering. Jaeck, Emma Gertrude, B.L., (*Univ. of Wis.*), 1903, *Monmouth*, German.

<sup>&</sup>lt;sup>1</sup>In absentia.

James, Leonard Vaughan, B.S., 1906, Amboy, Electrical Engineering. <sup>1</sup>Janssen, Otto, B.S., 1904, Los Angeles, Cal., Architecture.

Jenney, Adeline Miriam, A.B., (Univ. of Wis.), 1899, Yankton, S. Dak., English.

<sup>1</sup>Jensen, Joseph Norman, B.S., 1906, *Chicago*, Civil Engineering. Johnson, Charles Sunderland, B.S., 1903, *LaGrange*, Mechanical Engineering.

Johnson, Mabel Clare, A.B., (Ouchita Coll.), 1907, Arkadelphia, Ark., Modern Languages.

Jones, Sadocie Connellee, B.Agri., (Ky. State Coll.), 1906, Sadieville, Ky., Agronomy.

Kean, Hugh Pratt, A.B., (Albion Coll.), 1906, Urbana, Mathematics. Keeler, Fred Crosby, A.B., 1907, Belvidere, History.

Kemp, John Edward, B.S., 1901, Kewanee, Civil Engineering.

Kerr, Josephine Ellrod, B.S., 1907, Urbana, Bacteriology.

<sup>1</sup>Knapp, Willard Alfred, B.S., 1907, Farmer City, Civil Engineering. Lane, Michael A, B.S., (Univ. of Chicago), 1906, Chicago, Physiology.

Latzer, Lenore Lydia, A.B., 1906, M.S., (Univ. of Mich.), 1907, Highland, Bacteriology.

Layton, Katherine Alberta W, A.M., Canton, German.

Leverett, Warren Hamilton, M.S., (Shurtleff Coll.), 1905, Upper Alton, Chemistry.

Lewis, Byron Ray, A.B., 1907, Bridgeport, History.

Long, Roy Harold, B.S., 1906, Lexington, Horticulture.

Lowrie, Selden Gale, A.B., (Knox Coll.), 1907, Galesburg, Political Science.

McConn, Charles Maxwell, A.M., (Univ. of Minn.), 1904, Minneapoplis, Minn., English.

McCrory, Grover Cleveland, B.C.E., (Univ. of Arkansas), 1906, McCrory, Ark., Municipal and Sanitary Engineering.

McLaughlin, Edna Mildred, A.B., 1907, Galesburg, French.

Maddox, Wilbur Clinton, B.S., 1907, Galva, Electrical Engineering. Manuel, Earle Vincent, B.S., (Univ. of Minn.), 1907, Minneapolis, Minn., Chemistry.

<sup>1</sup>Marquis, Franklin Wales, B.S., 1905, *Bloomington*, Mechanical Engineering.

Mathews, Roberts Maurice, B.S., (Butler Coll.), 1906, Indianapolis, Ind., Mathematics.

Matthews, Robert Clayton, B.S., 1902, Champaign, Mechanical Engineering.

<sup>&</sup>lt;sup>1</sup>In absentia.

Mattill, Henry Albright, A.M., (Western Reserve Univ.), 1907, Leavenworth, Kan., Chemistry.

<sup>1</sup>Maxwell, Wymer Washington, B.S., 1907, Charleston, Architecture.

<sup>1</sup>Meier, William, B.S., 1901, Chicago, Civil Engineering.

Merrill, Amos Newlove, B.S., (Agri. Coll. of Utah), 1896, Logan, Utah, Agronomy.

<sup>1</sup>Mogensen, Peter, B.S., 1894, Urbana, Civil Engineering.

Montooth, Charles Stuart, A.B., 1905, Toulon, History.

Moore, Blaine Free, A.B., (Univ. of Kan.), 1901, Cherryvale, Kan., Political Science.

Morrison, Harry Cleveland, A.B., (Ind. Univ.), 1907, Hazelton, Ind., Mathematics.

Mumford, Herbert Windsor, B.S., (Mich. Agri. Coll.), 1891, Urbana, Agricultural Economics.

Myers, Clyde Hadley, B.S., (Ill. Wesleyan Univ.), 1907, Bloomington, Agronomy.

<sup>1</sup>Myers, Elmer James, A.B., 1907, Belleville, Kan., Psychology.

Nichol, Josephine Shepardson, A.B., (Denison Univ.), 1900, Urbana, German.

Nightingale, Harry Thomas, Ph.B., (Univ. of Mich.), 1895, Urbana, Political Science.

Noerenberg, Clarence Eugene, B.S., 1907, Highland Park, Architecture

Nuttall, John Tilden, B.S. (Northwestern Univ.), 1905, Urbana Chemistry.

Oathout, Charles Hubert, B.S., 1907, Urbana, Agronomy.

Owen, Mary Elizabeth Hodges, A.B., (Univ. of Wis.), 1907, Chicago, Modern Languages.

Palmer, George Merit, A.B., 1908, Champaign, History.

Patchin, Mary Amoret, A.B., (Wellesley Coll.), 1906, Chardon, O., English.

Petty, Luther Ewing, A.B., (Wabash Coll.), 1907, Aspen Hill, Tenn., Modern Languages.

<sup>1</sup>Poirot, Alois Phillip, B.S., 1906, Belleville, Civil Engineering.

Ponzer, Ernest William, B.S., 1900, Henry, Mathematics.

Porter, Francis Marion, B.S., (Ohio Univ.), 1907, Circleville, O., Physics.

<sup>1</sup>Post, Raeburn Henry, B.S., 1904, *Champaign*, Mechanical Engineering.

Quereau, Friend Curtis, B.S., (La. State Univ.), 1906, Gueydan, La., Animal Husbandry.

<sup>&</sup>lt;sup>1</sup>In absentia.

<sup>1</sup>Randall, Frank Alfred, B.S., 1905, Chicago, Civil Engineering.

Reed, Susan Martha, A.B. (Mt. Holyoke Coll.), 1907, Westfield, Mass., History.

Reynolds, Ernest Shaw, A.M., (Brown Univ.), 1907, Providence, R. I., Botany.

Roark, Ruric Creegan, A.B., (Univ. of Cincinnati), 1907, Richmond, Ky., Chemistry.

Roberts, Kathleen Alice, A.B., 1906, Champaign, English.

<sup>1</sup>Robinson, Ward Reid, B.S., 1906, Springfield, Civil Engineering.

Rogers, Jerome Stanley, B.S., (Syracuse Univ.), 1907, Honeoye Falls, N. Y., Chemistry.

Rutherford, Thomas Arthur, M.D., (Univ. of Pa.), 1907, M.S., (Princeton Univ.), 1907, Carbondale, Pa., Chemistry.

Sandifur, Claude Williamson, A.B., (Ind. Univ.), 1906, Champaign, Physics.

<sup>1</sup>Sargent, Charles Elliotte, B.S., 1886, *Chicago*, Mechanical Engineering.

<sup>1</sup>Sawyer, George Loyal, B.S., 1903, *Chicago*, Mechanical Engineering. Schmidt, Mrs. Violet Jayne, A.B., (*Univ. of Mich.*), 1887, Ph.D., (*Univ. of Mich.*), 1903, *Urbana*, Sociology.

<sup>1</sup>Schutt, Alfred George, B.S., 1905, Belleville, Civil Engineering.

<sup>1</sup>Seymour, Budd Willard, B.S., 1903, Dwight, Civil Engineering.

Shade, Imogene, A.B., 1907, Bloomington, Mathematics.

<sup>1</sup>Shattuck, Walter Francis, B.S., 1891, Chicago, Architecture.

Shaw, Hazel Yearsley, A.B., 1907, Urbana, History.

<sup>1</sup>Shepardson, Ralph Steele, B.S., 1897, Aurora, Architecture.

Shoop, Adaline Margaret, A.B., (Hedding Coll.), 1904, Abingdon, Latin.

Sim, Keturah Elizabeth, M.L., 1895, Urbana, English.

<sup>1</sup>Slocum, Roy Harley, B.S., 1900, Urbana, Civil Engineering.

<sup>1</sup>Smith, George Russell, B.S., 1900, *Elkhart, Ind.*, Mechanical Engineering.

Smith, James Elmo, B.S., (Univ. of Wis.), 1903, Urbana, Civil Enneering.

Stebbins, Millicent, A.B., (Univ. of Nebraska), 1906, Omaha, Neb., German.

Steele, Ava D., A.B., (Mo. Valley Coll.), 1898, A.M., (Univ. of Mo.), 1901, Marshall, Mo., English.

Stempel, Waldemar Matthaeus, A.B., (Ind. Univ.), 1905, Urbana, Physics.

<sup>&</sup>lt;sup>1</sup>In absentia.

Stephenson, Edward Beattie, M.S., (Knox Coll.), 1907, Sparta, Physics.

Stewart, John Truesdale, B.S., 1893, Paxton, Civil Engineering. Stifler, William Warren, A.B., (Shurtleff Coll.), 1902, Upper Alton,

Physics.

<sup>1</sup>Stone, Mrs. Mildred Ann, A.B., 1903, Bloomington, Psychology. Strand, Carl John, A.B., (Augustana Coll.), 1907, Brattleboro, Vt.,

Economics.

Strawn, Myrtle, A.B., 1906, Albion, English.

Stuhlmann, Otto, Jr., A.B., (Univ. of Cincinnati), 1907, Cincinnati, O., Physics.

Stull, Ray Thomas, E.M., (Ohio State Univ.), 1902, Elkland, Pa., Chemistry.

<sup>1</sup>Swanberg, Floyd Ludwig, B.S., 1902, *Cincinnati*, O., Mechanical Engineering.

Tanguary, Maurice Cole, A.B., 1907, Champaign, Entomology.

<sup>1</sup>Thayer, William Sumner, B.S., 1905, *Chicago*, Electrical Engineering.

Tower, Willis Eugene, B.S., 1894, Chicago, Physics.

<sup>1</sup>Trimble, Clara Eugenia, A.B., 1904, Champaign, History.

Van Alstine, Ernest, B.S., (Mich. Agri. Coll.), 1907, Grand Ledge, Mich., Agronomy.

Van Doren, Carl Clinton, A.B., 1907, Urbana, English.

<sup>1</sup>Weeks, Harry William, A.B., (Lombard Coll.), 1900, B.S., 1904, Jackson, Mich., Mechanical Engineering.

Weir, Mabel McQueen, A.B., (Stanford Univ.), 1904, Champaign, Latin.

Werckshagen, Paul Eberhard, (Graduate of Gymnasium, Schwedt, Germany), A.B., (Univ. of Berlin), 1901, St. Louis, Mo., Modern Languages.

West, James Alexander, B.S., (Ill. Wesleyan Univ.), 1899, A.M., (Boston Univ.), 1903, Champaign, Zoology.

Wheeler, Wilfred Forrest, B.S., (Kansas Univ.), 1908, Urbana, Chemistry.

White, Fred H. B.S., 1907, Long View, Economics.

White, Marion Ballantyne, Ph.B., (Univ. of Mich.), 1893, Champaign, Mathematics.

Williams, Elmer Howard, A.M., (Univ. of Wis.), 1906, Urbana, Physics.

Willis, Clifford, B.S., 1900, Champaign, Agronomy.

<sup>&</sup>lt;sup>1</sup>In absentia.

Wilson, Harley Frost, B.S., (Colo. Agri. Coll.), 1907, Victor, Colo., Entomology.

Wright, Lora, A.B., (Smith Coll.), 1905, Urbana, History. Yeck, Charles Walter, A.B., 1907, Flora, Physiology.

<sup>1</sup>Zimmerman, Walter Herman, B.S., 1897, Champaign, Mechanical Engineering.

#### SENIORS

Abbott, Edwina Eunice, Oak Park, General, L. and A. Ackemann, Henry Conrad, Elgin, Civil Eng'g. Adams, Edwin Bert, Steger, Civil Eng'g. Akers, Deborah Chase, Decatur. General, L. and A. Allen, Albert, Mt. Vernon, Business, L. and A. Almy, William Herbert, Sterling, Mechanical Eng'g. Anderson, George Herbert, Roseville. General, L. and A. Applegate, Annie Mary, Atlanta, General, L. and A. Arthur, Robert Stuart, Oak Park, Civil Eng'g. Atkinson, Harry James, Joliet, General Science. Atkinson, Sheridan Knox, Madison, Wis., Civil Eng'g. Atwood, Paul Wiley, Aurora, Agriculture. Aumer, Joseph Paul, Urbana, Chemistry. Bach, Irwin Woodward, Urbana, Medical.

Baker, Mary Ellen, A.B.,

(Lincoln Univ.) 1900, Decatur,

Baldwin, Jessie Emma,

Ottawa,

General Science.

Ball, Roscoe Lawrence, A.B.,

(Eureka Coll.), 1906, Eureka, Agriculture. Bannon, Winifred Agnes, Joliet, General, L. and A. Barker, Lawrence Byron, Municipal Eng'g. Batavia. Barnhart, Edna Pearl, Urbana. General, L. and A. Barrett, Jesse Logan, Henry, Agriculture. Bartells, Edwin Jacob, Camp Point, Chemistry. Bartells, George Case, Jr., Camp Point, Chemistry.

Batterson, Mayme Alice, Ph.B.,

(Ohio State Univ.), 1901, Portsmouth, O., Library, 5th year. Chicago, Bauer, August Harvey, Medical. Baxter, Charles Bayard, Nauvoo, Mechanical Eng'g. Beal, Daniel Middlekauff, Moline. Medical. Bear, Arthur Linn, Decatur. Civil Eng'g. Benjamin, Fred Parker, Watseka, General, L. and A. Bennett, Stella, B.L.S., 1903, Belvidere, General, L. and A.

<sup>&</sup>lt;sup>1</sup>ln absentia.

Berolzheimer, Solomon Milton, Berolzheimer, Teresa Ruth, Besore, Hazel, Bevis, Albon,

Bigelow, Mary Constance, A.B.,

Billingsley, Mary Prudence, A.B.,

Black, William Z, Blohm, Lee Ross, Bond, Ethel, A.B., 1907, Boothe, Viron Joseph, Bopp, Julius Valentine, Bouyoucos, George John, Bowman, Louis Napoleon, Bracker, Emil Mark Diedrich, Bradshaw, Percy Belmont, Brand, Herbert Amery, Bredehoft, Nellie Matilda, Bronson, George Earl, Brooks, Ira Sandford, Brown, Briggs Odd, Brown, Harry Clifford, Jr., Brownson, Winnina Ella, Brundage, Avery. Brundage, Florence Louise, Bryan, Sarah Elizabeth, Buenger, Louis. Bumstead, Arthur Pingree, Burch, George Francis, Burgess, Benjamin Payson, Burgess, Harry Holdridge, Burres, Opal, Burroughs, Wilbur Gordon, Burwash, Milo Eugene, Busey, Carolyn Elizabeth, Busey, Charles Bowen, Bushnell, Ethel May, Bushnell, Horace Leland, Butler, Beatrice Martindale, Butler, John Prescott, Buvers, Archie Stanton,

Chicago Heights. Mech. Eng'g. Chicago Heights. Chemistry. General, L. and A. Urbana, Architectural Eng'g. Urbana.

1002, Champaign, Library, 4th year.

(Univ. of Kansas), 1902, Belleville, Kan., Library, 5th year. Urbana. Agriculture. Beardstown, General, L. and A. Library, 5th year. Champaign, El Paso, Tex., Electrical Eng'g. New Memphis. Agriculture. Agriculture. Athens, Greece, Mechanical Eng'g. Mason City. Hillsdale. Agriculture. Electrical Eng'g. Dixon, Architectural Eng'g. Danville, Danville. General, L. and A. Civil Eng'g. Chicago, Agriculture. Beecher City, Electrical Eng'g. Lyons, Ind., Chicago. Civil Eng'g. Centralia, General, L. and A. Chicago, Civil Eng'g. Muskegon, Mich., Lib., 4th year. Library, 4th year. Champaign, General, L. and A. Edwardsville, Dundee. General, L. and A. Civil Eng'g. Urbana, Civil Eng'g. Aurora, Tonica. Civil Eng'g. General, L. and A. Urbana, Edwardsville, Civil Eng'g. Champaign. Agriculture. Urbana, Household Science, Agr. General, L. and A. Urbana, Urbana, General, L. and A. Paxton, Architectural Eng'g. Evanston, General, L. and A. Monticello. General, L. and A. Mechanical Eng'g. Sterling,

Byers, Frank Milton, Cabanis, John Brahm, Cairns, John Webster, Caldwell, Ida Belle, A.B.,

(Charles City Coll.) 1908, Charles City, Campbell, Samuel Charles, Candor, Robert Jay, Carrithers, Ira Thomson, Cass, Sherman, Chapin, Mae, Christopher, Daniel Leroy, Cleveland, Mortimer Burnham, Clifford, Winnifred Hazel, Coghlan, Byron Kemp, Connard, Curtis Earl, Cook, Frank Louis, Coons, George Herbert, Cooper, Hazle Katherine, Cornell, Ralph Gilbert, Coulson, Margaret May, Cox, Flemin Willet, Jr., Cox, Irving Hughey, Cox, James Francis, Coyle, John Frank, Craig, Jennie Adah, A.B., 1906, Crossett, Gordon William, Cutler, Stanley Gardner, Dadant, Maurice G, Daehler, Albert Hartman, Davidson, Dora, Davis, Marietta Syrl,

Deal, Hiram Linus, Deets, Ralph Emerson, Delmege, Maude, Denny, Christina, A.B., 1905, Dewey, Chester Robert, Dewey, Sarah Louise, M.S., 1899, Urbana, Dicke, Otto Arthur, Dickinson, Nelle Major, Dieter, Charles Foster, Dillon, Bessie,

Charleston, Agriculture. Kinmundy, Civil Eng'g. Richmond. Electrical Eng'g.

Library, 5th year. Marissa, Civil Eng'g. Aledo. Architecture. Saunemin, General, L. and A. Cerro Gordo, General Science. General, L. and A. Champaign, General Science. Urbana. Waterloo, Ia., Architecture. Champaign, General, L. and A. Kankakee. Civil Eng'g. Decatur, Electrical Eng'g. Oak Park, Electrical Eng'g. Bloomington, General Science. Champaign, General, L. and A. Chicago, Civil Eng'g. Des Moines, Ia., Lib., 4th year. Bridgeport, General, L. and A. Mattoon, General, L. and A. Urbana, Medical. Penfield. Mechanical Eng'g. Champaign, Library, 4th year. Salem, Electrical Eng'g. Chicago, Civil Eng'g. Hamilton, Business, L. and A. Chadwick, General, L. and A. Sullivan, Library, 5th year.

General, L. and A. Taylorville, Agriculture. Sterling, Electrical Eng'g. Des Moines, Ia., General, L. and A. Lincoln. Library, 5th year. Morris, General, L. and A. General, L. and A. St. Louis, Mo., Civil Eng'g. Eureka. Household Science. Chicago, Chemical Eng'g. Normal, Household Science, Agr.

Straight Creek, Kan.,

Disosway, Mark Deems, Doherty, Mary Gertrude, Donoho, Earl Willoughby, A.B., (McKendree Coll.), 1904, Dugan, Charles Bedard, Dunn, Harold Houghton, Dunning, Frank Wright, Earnest, William Watson, Edmunds, Daniel Austin, Edwards, Jeannette Ellen, Eiszner, Adeline Christine, Ellis, Arthur Jackson, English, Jesse Thomas, Eno, Sarah Wooster, Ervin, Helen Elaine, Ewing, Harriet Grace,

Faber, Daniel Cleveland,
Fargo, Roy Newton,
Fast, Emmett Emerson,
Fisher, Ora Stanley,
Fitch, Eva Lillian,
Fossland, Gerard Leonard,
Foster, Faith Estelle,
Fraser, Annebel,
Fraser, Oscar Bryant,
Furrow, Elmer Otis,
Gaines, Walter Lee,
Gangsted, Julius Siverine,
Garnett, Robert Edward,
Geltmacher, Clara Blythe,
Gentsch, Vida Celinda,

Gesell, Egbert George,

Gibson, Mary,
Gibson, Miles Otto,
Gillespie, Paul,
Gilstrap, Eugene Franklin,
Glasgow, Hugh,
Glasgow, Robert Douglass,
Gonnerman, Harrison Frederick, Dixon,

Sheldon, Mechanical Eng'g. LaGrange, General, L. and A.

Troy, Mechanical Eng'g. LaSalle, Railway Eng'g. Moline, Railway Eng'g. Mechanical Eng'g. Aurora, Bushnell, General, L. and A. Gilman, Mechanical Eng'g. Champaign, General, L. and A. General, L. and A. Oak Park, Chicago Heights, General Science. Civil Eng'g. Isabel, Charlotte, Vt., General, L. and A. Kingston, Tenn., Library, 4th year. St. Joseph, Mo.,

Household Science, Agr. Paw Paw, Electrical Eng'g. Electrical Eng'g. Chicago, Princeville, Mechanical Eng'g. Agriculture. Washburn, Library, 4th year. Sac City, Ia., Winthrop Harbor, Mech. Eng'g. Boulder, Col., Library, 4th year. Library, 5th year. LaSalle, General, L. and A. Rock Island, General, L. and A. Potomac, Agriculture. Crete, Agriculture. Deerfield, Wis., Plymouth, Business, L. and A. Library, 4th year. Urbana, New Philadelphia, O.,

General, L. and A.

Tomahawk, Wis.,

Business, L. and A.

Dana, Ind., General, L. and A.

Urbana, Mechanical Eng'g.

Atlantic, Ia., Architecture.

Tacoma, Wash., Architecture.

Tennessee, General Science.

Tennessee, General Science.

Dixon. Civil Eng'g.

Grady, Paul L, Graham, Ray Austin. Grant, David John, Greene, James Henry, Greene, William Bertram. Gridley, Clara Louise, Griswold, Elizabeth Victoria. Grosh, Elizabeth Phyllis, Gross, Alfred Otto, Grove, Sanford Lackey. Grubel, Edward Alexander, Hachmeister, George John Ernest, Chicago. Hall, Edward Leverich, Hall, Ward Elmo, Hall, Ward Everett, Hampton, Ira, Hanson, Frank Lawrence, Hanzlik, Paul John, Harder, Rubey Osgood, Harris, Albert Jesse, Harrison, Florence,

Bloomington, Civil Eng'g. Washington, Ind., Agriculture. Chicago. Civil Engineering. Agriculture. Dubuque, Ia., Lisle, Mechanical Eng'g. Virginia, Library, 4th year. General, L. and A. Mt. Morris, Mendon, Household Science, Agri. Atwood, General Science. Agriculture. Cerro Gordo, Decatur, Civil Eng'g. Mechanical Eng'g. Danville. General, L. and A. Electrical Eng'g. LaMoille, Monmouth, Agriculture. Electrical Eng'g. Muscatine, Ia., Chicago, Mechanical Eng'g. Cedar Rapids, Ia., Medical. Civil Eng'g. Lockport Helena, Ark., Railway Eng'g. Champaign,

Household Science, Agri.

Hayes, Florence, B.S.,

(Cornell Coll.), 1892. Morrison, Haynes, Mark Ross, Hazard, Lee Herbert, Heaney, Arthur Noble, Hellstrom, Klaus Edward. Herrick, Hope, Herrin, George Boyer, Hill, Carrie Marsh, Hill, Norman Haden, Hobbs, Horace Gaylord, Hoge, Lura Ethel, Hogue, Clarence Irvin, Holt, Sidney Viel, Holton, Charles Ray, Hoodwin, Hyman Jacob, Howe, Mary, Howser, Theron Robinson, Hudson, Harry Henry, Hueckel, Albert Phillip.

Library, 4th year. LaSalle, Civil Eng'g. Electrical Eng'g. Dixon, Mendon. Civil Engineering. Electrical Eng'g. Evanston, General, L. and A. Farmer City, Bunker Hill, Electrical Eng'g. Chicago. General, L. and A. Architectural Eng'g. Champaign, Pontiac, Electrical Eng'g. Wenona, Library, 4th year. Vincennes, Ind., Architecture. Agriculture. Oneida, Colchester, General, L. and A. Civil Eng'g. Chicago, Chicago, Household Science, Agri. Lincoln, Civil Eng'g. Galva, Civil Eng'g. Caseyville, Civil Eng'g. Hueckel, William Clemens, Huff, Walter William, Huffman, Eva Ellen, Hunt, Agnes, Hunt, A Frazier, Hurd, Mayme Lucy, Hursh, Ralph Kent, Hutchins, Margaret, A.B.,

Hyndman, Ruth, Jacobs, Cora Anna, Jacobsen, Eda Augusta, Jaquet, George Emil, Johnson, George Koser, Johnson, Roxana Galletly, A.B.,

(Indiana Univ.), 1903, Spencer, Ind., Jones, Horace Harman, Jr., Jones, John Lloyd, Jones, Mabel, B.L., 1891, Jordan, Erwin Byron, Jordan, Oscar Joseph, Kahlert, Herbert Edward, Kautz, Will Waddell, Kegley, Franklin Thompson, Jr., Urbana, Kelley, Grace Osgood, B.L.S.,

Kelso, Ruth, Kerch, Walter Washington, Kerr, Bartlett Martin, Kibby, Sarah Elvira, Kindig, Pearl, Knappenberger, George Emmett, Macomb, Knirk, Carl Fred, Laflin, Mary Elizabeth, Lange, Ida Louise,

Larracas, Fidel Vidal, Latzer, Robert Louis, Lawless, Joseph Conrad, Lawless, Julia Anna, Leidendeker, Frank Earl, Liggett, Fredrick Manly,

Caseyville, Civil Eng'g. Sullivan, Civil Eng'g. General Science. Charleston, Ridott, Household Science, Agri. Chicago. General, L. and A. Fayette, Ia., Library, 4th year. Macomb, Mechanical Eng'g.

(Smith Coll.), 1906, Lancaster, N. H., Lib., 5th year. Wyoming, O., General, L. and A. Sterling, General Science. Urbana. General, L. and A. Fall City, Neb., Railway Eng'g. Mt. Vernon, Business, L. and A.

Library, 5th year. Batavia, Mechanical Eng'g. Bradford, Municipal Eng'g. Library, 4th year. Champaign, Civil Eng'g. Champaign, Chicago, General, L. and A. Electrical Eng'g. Carlyle, Moweaqua, Mechanical Eng'g. Agriculture.

1903, Urbana, General, L. and A. Columbus, O., General, L. and A. Janesville, Wis., Civil Eng'g. Mechanical Eng'g. Urbana. Ottawa. General, L. and A. General, L. and A. Secor, Medical. Quincy, Mich., General Science. Champaign, Music. Holcomb, W. Va.,

Library, 5th year. Municipal Eng'g. Boac, P. I., Agriculture. Highland, Quincy, Chemistry. Paloma, General, L. and A. Mechanical Eng'g. Champaign, Hamburg, Ia., Architecture.

Lloyd, Jennie Mae,
Lodge, Fred Sterling,
Logan, Clarence Chester,
Logan, Grace Belle,
Long, Arthur Theodore,
Long, Frank Brewer, 1887,
Long, Joseph Ayres,
Lorenz, Frederick Ayres, Jr.,
Loutzenhiser, Ernest Harbin,
Love, Robert James,
Lowry, Thomas Grover,
Lumbrick, Arthur,
Lynch, Ralph Atkinson,
McAnulty, Ethel Electa, A.B.,

McCain, Myrtle B., McCaskey, Wendl Justitia,

McClenahan, William Thompson, Monmouth,
McCoy, Milton Howard,
McCracken, Robert Wier,
McDonald, Alice Birdie,
McDonald, Lewis,
McIntire, Ella Elliott,
Mackey, Zella Graham,
Mount Carr

McMahon, Grace Dorothy, McMillan, Matthew Hunter, McNeill, Norah, Madison, George, Malcolm, Howard Stout, Mangas, Lyman Samuel, Mann, Howard Leslie, Marsden, Roger Dearborn, Matthews, Nellie Pearl, Maze, Everett Andy, Meadows, David Stanley, Miller, Alvin Charles, Miller, Bertha Alice, Miller, Clarence Benwell, Miller, Nelle Grant, Miner, Ada Mae,

Girard. General, L. and A. Monticello, Chemical Eng'g. Agriculture. Flora, Edinburg, Household Science, Agr. St. Louis, Mo., General, L. and A. Chicago. Architecture. Amboy, Civil Eng'g. Railway Eng'g. Chicago, Mechanical Eng'g. Danville. Architecture. Hoopeston. Upper Alton, Civil Eng'g. Charleston. Agriculture. Chemical Eng'g. Peoria.

1905, Carthage, Library, 4th year.

Bloomington, Household Sci., S.

Chicago,

Household Science, L. and A.

Monmouth, Municipal Eng'g.

Chicago Heights, Civil Eng'g.

Blooomfield, Ind., Civil Eng'g.

Charleston, General, L. and A.

Brownstown, Civil Eng'g.

Urbana, Library, 4th year.

Mount Carroll,

Household Science, Agr. Maywood, Library, 5th year. Electrical Eng'g. Swanwick. Library, 4th year. Harristown. General, L. and A. Savanna. Civil Eng'g. Roseville. General, L. and A. Lincoln, Railway Eng'g. Kankakee, St. Charles, Civil Eng'g. Rock Island, General, L. and A. Anna, Electrical Eng'g. Civil Eng'g. Chicago. Urbana. Mechanical Eng'g. Paris, General, L. and A. Electrical Eng'g. Boswell, Ind., General, L. and A. Champaign, Champaign, General, L. and A.

Moore, John Beverly, Moore, Joseph Kennedy, Morgan, Meryl Stanly, Morris, James Edwin, Moulton, Walter Ross, Munger, Guy Elmer, Murphy, Grace Eleanor, Nation, Mary Ethel, Neuman, John Adams, Newcomb, Jessie Ruth, Nichol, Marion Starr, Nicodemus, Frederick Bowman, Niederman, Gertrude, Nitz, Ingo Charles, Northey, Della Frances, Ph.B.,

Nydegger, Charlotte Marie, O'Hair, Lulu Claire, Olmsted, George Chauncey, Ostrander, Mabel Verona, Palmer, George Merit, Park, Jay Boardman, Parker, Minnie Leonora, Parker, Washington Warner, Parsons, Irene Mary, Pearman, Arthur Columbia, Perry, Leonora Naomi, Perry, Winifred Almina, Pfeil, Mary Esther, Pfisterer, George Edward, Phillips, Lydia Anne, A.B.,

Pierce, Raymond Clark, Pillinger, Ralph Alfred, Pillsbury, Charles Stephen, A.B.,

Porterfield, Nellie Mildred, Postel, Allan Julius, Powers, Hiram James, Price, Anna May, B.L.S., 1900, de la Rama, Josè. Rambo, Jessie Eulalia,

Benton, Medical. Champaign, Ceramics. Galva, Civil Eng'g. Congress Park, Electrical Eng'g. Glen Ellyn, Electrical Eng'g. Rock Island. Mechanical Eng'g. Tuscola, General, L. and A. General, L. and A. Chebanse. Electrical Eng'g. Springfield, Champaign, General, L. and A. Urbana, General, L. and A. Civil Eng'g. Forreston, Chicago, Chemistry. Chicago. Electrical Eng'g.

(Iowa Univ.), 1898, Dubuque, Ia., Lib., 5th year. Danville, Household Science, S. Laurel, Ind., General, L. and A. Chattanooga, Tenn., Mech. Eng'g. Chicago. General, L. and A. General, L. and A. Champaign, Paxton, General Science. General, L. and A. Taylorville, Elgin, Electrical Eng'g. Chicago, General, L. and A. Champaign, Medical. Hackensack, N. J., Lib., 4th year. Urbana, General, L. and A. Education, L. and A. Arenzville, Mechanical Eng'g. Sterling.

(Ohio State Univ.), 1905, Columbus, O., Library, 5th year. Civil Eng'g. Harristown, Chicago, Architectural Engig.

> 1907, Urbana, Mechanical Eng'g. Fairmount. General, L. and A. Business, L. and A. Mascoutah, Civil Eng'g. Taylorville, Urbana, General, L. and A. Bacolod, P. I., Agriculture. Household Science, S. DeLong,

Ray, Howard Alden, Regan, Ralph Howard, Reno, John Franklin, Retz, Rosalie Mary, Rhodes, Edward Melvin, LL.B.,

1900, Urbana,

Chicago,

Ottawa,

Browning,

Agriculture.

Mechanical Eng'g.

Mechanical Eng'g.

General, L. and A.

Ritchie, Elizabeth Prophet, A.B.,

Robinson, Raymond Elder, Rolfe, Amy Lucile, Ropp, Franklin Newton, Routson, Fred John, Rutledge, Nellie Irene, Ryan, Edwin Groves, Sachs, Inez Floyance, Saemann, Mabelle Oletta, A.B.,

Sands, Effie Louvisa, Sanvictores, Jose Gorgonio, Sargent, Agnes Lucy, Sawyer, John Henry, Schertz, Albert Charles, Schneider, Bertha Mabel, Schulzke, William Henry, Schwerin, Arthur, Scovill, Hiram Thompson, Seaman, Arthur Terwilliger, Scrogin, Edith Naomi, Sevilla, Hermenegildo, Shannon, Agnes Nancy, Shaw, James William, Shields, Charles Culver, Shipman, Louise, Simpson, Frank, Simpson, Orman Manard, B.L.,

(Highland Coll.), 1907, Alexis, Sisam, Mrs. Cora Hutton, Slaymaker, Charles Monroe, Smith, Claire Howland Wallace, Smith, Ellis Edwin, Smith, Elizabeth, Smith, Irwin Webster,

(Cotner Coll.), 1900, Wymore, Neb., Library, 4th year. Peoria, Mechanical Eng'g. Champaign, General Science. Civil Eng'g. Chicago, Toledo, O., Civil Eng'g. Mt. Sterling, General, L. and A. Chicago, Business, L. and A. Towanda. Library, 4th year.

Peabody, Kan., General, L. and A.

(Univ. of Wis.), 1905, Plymouth, Wis., Library, 4th year. University Place, Neb., Lib., 4th yr. Pasig, Rizal, P. I., Agriculture. Exeter, N. H., General, L. and A. General Science. Charleston, Tiskilwa. General, L. and A. Columbus, O., Library, 4th year. Springfield, Architecure. Burlington, Ia., Civil Lng'g. Rockford, Business, L. and A. Elgin, Civil Eng'g. General, L. and A. Lexington, Manila, P. I., Agriculture. Freeport, Household Science, Agr. Mechanical Eng'g. Springfield, Highland Park, Mechanical Eng'g. DeKalb. General, L. and A. Pana, Agriculture.

> Chemistry. Urbana, General Science. Erie, Civil Eng'g. Hoopeston, Civil Eng'g. Joliet, Mechanical Eng'g. Broadhead, Wis., Lib., 4th year. Urbana. General, L. and A.

Smith, Leslie Alden, Smith, Rufus William, Smith, Theodore Meade, Snyder, Stanley S, Soderwall, Johan Einar Fabian, Solberg, Leif Peder Bjorgvin, Sonntag, Elsie Roberta, Sonntag, Viola Hope, Spencer, Fannie Grace Clara, Spray, Edith Lillian, B.L.S., 1907, Arlington Heights,

Sprecher, Irwin Sherwood, Stahl, Lloyd Richard, Stair, Jacob Leander, Jr., Stanford, Howard Russel, Stephens, Herbert Coles, Stewart, Charles Arthur, Stewart, Charles Sumner, Stiff, Ross McGehee, Stinson, Spencer A, Stone, Paul Prime, Stout, Elizabeth Ten Eyck, Straight, Fleda DeVere, Strauch, Bernard Andrew, Streid, Joseph Benjamin, Styles, Edward Anthony, Surman, Hugo Ewald, Swartz, Jesse Wilmot, Swezey, Anne Davies, B.L.S.,

Swigart, Lois Edna, Taylor, Nellie Florence, Ten Broeck, Carlon, Terrill, Fred, Thomas, Jennie Insley, Thompson, Josephine Gray, Tilden, Elmer A, Toland, Jessie May, Toops, Mack Streevey, Touzalin, Clara Belle, Tucker, Burton Floyd, Tucker, Jesse Orrin,

Champaign, Business, L. and A. Urbana, Agriculture. Auburn, Agriculture. Danville, General, L. and A. Chicago. Library, 4th year. Aurora, Mechanical Eng'g. General, L. and A. Plainfield. Plainfield, General, L. and A. Terre Haute, Ind., Chemistry.

General, L. and A. Zion City, Agriculture. Electrical Eng'g. Chillicothe, Altamont, Electrical Eng'g. Agriculture. Chatsworth, Electrical Eng'g. Sycamore, Genoa, Agriculture. Civil Eng'g. Charleston, Harrisburg, Chemistry. Colfax, Civil Eng'g. Lincoln, Business, L. and A. Petoskey, Mich., Library, 5th year. Fonda, Ia., Library, 5th year. Chadwick, General, L. and A. Metamora, Medical. Champaign, Railway Eng'g. Collinsville, Civil Eng'g. Mansfield, Electrical Eng'g.

1903, Urbana, General, L. and A. Farmer City. General, L. and A. Tuscola. General, L. and A. Parsons, Kan., Medical. Colchester, Mechanical Eng'g. Homer, General Science. Chicago, Library, 4th year. Canton, O., Architecture. Urbana, General, L. and A. Scullin, Okla., Civil Eng'g. Chicago, Library, 4th year. Boston, Mo., Electrical Eng'g. Boston, Mo., Electrical Eng'g.

Underwood, Wilbert Eugene, Urban, Harvey Benjamin, Van Brunt, George Athol, Vandagrift, Carl William, Van Galder, Cora May,

Vaniman, Vernon, Van Inwagen, Frank, Van Petten, Robert Milton, Wagner, Fritz, Jr., Wall, Richard James Francis, Wardall, William Jed, Warner, James Madison, Waterhouse, Charles Eugene,

Watters, James Merton, Way, George Fritz, Weatherhead, Drury Lee, Webber, William Barnett, Jr., Weber, Emil August, Webster, Robert Lorenzo,

Weinberg, Nina Mary, Weir, Henrietta Ellen, Welch, George Richard, White, Earl Archibald. White, Lena Lee, White, Wiebe Alice, Wickersham, Clarence Edmund, Wilkinson, Stanley E, Williams, Howard Chandler, Williamson, Florence, Wilson, Edwin Leonard, Wilson, Hugh Edward, Wilson, Lelia Sara, Wilson, Willabelle Bernice, Winn, Claude Ethelbert, Wood, Beulah Miles, Woodbridge, Mary Emily, Woods, Cedar Arabella, Wreath, Samuel Ross, Ziesing, Henry Hanna,

Austin, Electrical Eng'g. Gibson City, General Science. Chemistry. Kewanee, Centralia, General, L. and A. Rock Island,

Household Science, S. Virden, Agriculture. Mechanical Eng'g. Champaign, Champaign, Civil Eng'g. Chicago. Architecture. Architecture. Chicago, General Science. Tuscola, Syracuse, N. Y., Civil Eng'g.

A.B., 1907, Burlington, Ia., Civil Eng'g. Watseka, General, L. and A. Waughtel, Mrs. Nellie Elizabeth, Cuba, Household Science, Agr. Gibson City. Medical. Moline, Chemical Eng'g. Urbana, Mechanical Eng'g. Milwaukee, Wis., Civil Eng'g. Washington, D. C.,

General Science. Rushville, General, L. and A. Ypsilanti, Mich., Library, 4th year. Joliet, Electrical Eng'g. Antioch. Agriculture. Genaral, L. and A. Urbana, Library, 4th year. Austin, Electrical Eng'g. Roseville, Kankakee, Business, L. and A. Elgin, General, L. and A. Houston, Tex., General, L. and A. General, L. and A. Joliet, General, L. and A. Mason City, Mason City, General, L. and A. General Science. Champaign, Paris, Civil Eng'g. Petersburg, General, L. and A. General Science. Urbana, Walnut, Ia., Library, 4th year. Hillsdale, Chemistry. Glencoe, Civil Eng'g.

## JUNIORS

Ackert, James Edward, Dixon, General Science. Almy, Lloyd Huber, Sterling. Chemical Eng'g. Alverson, Maude Lena, Urbana. General, L. and A. Ames, Albert Wilson, Kaneville, Mechanical Eng'g. Anderson, Florence Elizabeth, Household Science, Agr. Urbana, Anderson, Howard Fraser, Urbana. Architectural Eng'g. Anderson, Martin Joel, Moline, Mechanical Eng'g. Arnold, Ross Harper, Oregon, Electrical Eng'g. Ashdown, Harry Edward, Port Byron, Municipal Eng'g. Ashley, Leon Eaton Cummings, Bluffs, Architectural Eng'g. Baird, John Henry, Urbana, Agriculture. Baker, Ruth Marsh, Savoy, General, L. and A. Balcom, Henry Clarke, Indianapolis, Ind., Agriculture. Baldwin, Frank Boyd, Chicago. Civil Eng'g. Bardwell, Robert Cousins, Aurora, Chemical Eng'g. Barr, Nelson Rogers, Quincy, Electrical Eng'g. Barth, George Andrew Christian, Pana, Civil Eng'g. Bateman, James Metcalf. Rockford. Electrical Eng'g. Champaign, Bauer, Frank Stanley, Mechanical Eng'g. Bauer, Frederick Charles, Champaign, Agriculture. Beach, Bayard Macknet, Huron, S. D., Electrical Eng'g. Beck, Frederick, Architectural Eng'g. Harvey, Sioux City, Ia., Beck, Ralph Osborne, Civil Eng'g. Becker, Arthur Bristow. Peoria. Civil Eng'g. Beeby, Frank Fairwell, LaSalle, Civil Eng'g. Bell, Herbert Eugene, Sterling, Electrical Eng'g. West York, Bell, Rodney Linton, Civil Eng'g. Benefiel, Eva Marion, Mattoon, Household Science, Agr. Bengel, George Adam, Springfield. Civil Eng'g. Bengston, Pearle Elsie, Urbana, Household Sci., L. and A. Bennet, Harvey Childs, Aurora, Chemical Eng'g. Bevis, Daily George, Newton, Civil Eng'g. Beyrer, William Herbert, South Bend, Ind., Architecture. Bickel, Mary Andrews, Geneseo, Library, L. and A. Blair, Alice Ledlie, Library, L. and A. Barry. Blake, Katherine Mary, General, L. and A. Watseka. Blomfeldt, Allen Axel, Chicago, Mechanical Eng'g. Borton, Gail Leslie, DeLand, Business, L. and A. Boston, Irma Willard, Yorkville,

Household Science, L. and A.

Boynton, Napoleon Hiram, Brackenbury, Benjamin Almond, Braley, Howard Dixon, Bramhall, Arthur Eugene, Brauer, Lydia Marie, Breckenridge, Gladys Sinclair, Bredehoft, Mabel Armena, Breitenfeld, Richard, Bressler, Charles Emery, Jr., Brown, Edward Webb. Brown, Wallace Keith, Buck, Leonard, Bullock, Edith Ray, Bullock, Lela May, Burch, William Harrison, Burgess, Frank M, Burgett, Jay Thomas, Burke, Paul, Burt, John Little, Butler, Comfort Straight, Butler, William Arthur, Cabeen, Richard McPherson, Cairns, George Dean, Campbell, Allan Berry, Carlson, Carl Bernhardt, Carper, John Fisher, Cary, Earl Chester, Casteel, Sarah Myrtle, Cattron, Kie, Cawood, Hervey Richey, Charles, Walter Thomas, Ph.B., (Sheffield Scientific Sch.), 1900, Chicago, Chichester, Emily, Christopher, Carl, Clark, Faith Angeline, Clarke, Carrie Louise, Clarke, Frances Emma, Claycomb, Amos Townsend, Cleavinger, John Simeon, Clendenen, Paul McKinney, Clinite, Raymond Grover. Clow, Grace Miranda,

Electrical Eng'g. Chicago, Algonquin, Municipal Eng'g. Virden, Electrical Eng'g. Michigan City, Ind., Architecture. General, L. and A. San Jose, Urbana. General, L. and A. Danville, Arch. Decoration. Harvard, Civil Eng'g. South Bend, Ind., Civil Eng'g. Metropolis, Electrical Engig. Watertown, N. Y., Elec. Eng'g. Vermont, Business, L. and A. El Paso, General, L. and A. General, L. and A. El Paso. Morrison, Mechanical Eng'g. Tonica. Agriculture. Newman, Business, L. and A. Three Rivers, Mich., Mech. Eng'g. Chicago, Electrical Eng. Cairo. General, L. and A. Kenosha, Wis., Electrical Eng'g. Architecture. Seaton, Richmond, Business, L. and A. Electrical Eng'g. La Harpe, Architectural Eng'g. Moline, Electrical Eng'g. Buda, Rantoul, Business, L. and A. Danville, General, L. and A. Fairview. Agriculture. Palestine. Civil Eng'g. Architecture. Mathematics, S. Brimfield, Agriculture. Auburn, General, L. and A. Carthage, Mathematics, S. Momence. Urbana, General, L. and A. Sycamore, Business, L. and A. Springfield, General, L. and A. Cairo, Business, L. and A. Cherry Valley, Civil Eng'g.

General, L. and A.

Plainfield,

Coker, Myrtle Rose, Collins, Ray Arthur, Cook, Frank Samuel, Corrington, Cloyd Ellorne, Craig, Hazel Iona, Craig, Ollison, Cristy, Harold E, Cromer, Alba Cornelius Honey-

Crossland, Hiram Edward, Crowell, Paul Calvin, Dady, Arthur Owen, Danford, Fred Dwight, Dayton, Susan LaRue, Dean, Harold Churchill, DeLany, Clarence Martin, DeWitt, Homer Roscoe, Dickerson, Ira Wilmer, Dietrich, Benjamin Henry,

Dillon, Lee Amos, Dixon, Guy, Doerr, William Philip, Doherty, Robert Ernest, Dollinger, Hazel Dell, Dorman, Dean Stanley, Drennan, Walter R. Drew, Joseph Allen, Dunlap, Nora Betz, Dunn, Wilbur Lawrence, Eager, Alice. Eastman, Otis Miles, Eaton, Frances Marilla, Eiker, Bessie Hamilton, Eiszner, Bessie Josephine, Ekblaw, Karl John Theodore, Elliott, Nixon Cash, Jr., Ercanbrack, Hal Edmund, Erskine, Robert Newman, Farr, Alvin Isaac, Fast, Byron Meredith, Fink, Erna Marie Elizabeth,

Harrisburg, Chicago, Mackinaw. Moweaqua, Aurora, Sullivan, Joplin, Mo., General, L. and A. Civil Eng'g. Civil Eng'g. Electrical Eng'g. General, L. and A. Mechanical Eng'g. Mechanical Eng'g.

well, Hoopeston, Agriculture. Sheldon. Civil Eng'g. Chicago, Civil Eng'g. Gurnee, Mechanical Engig. Joy, Civil Eng'g. Paris, General, L. and A. Chicago, Electrical Eng'g. Chicago, General, L. and A. Chicago, Civil Eng'g. Electrical Eng'g. Newton, Black River Falls, Wis.,

Sheldon, Kentland, Ind., Chicago, LaGrange. Champaign, Taylorville, Chicago, Watseka, Savov. Peoria. Aurora, Harvard, Tyler, Texas. Sparta, Oak Park, Rantoul, Elburn, Oak Park, Saunemin, Princeville,

Austin,

Business, L. and A. General, L. and A. Electrical Eng'g. Architecture. Electrical Eng'g. General, L. and A. General, L. and A. General, L. and A. Agriculture. General, L. and A. Electrical Eng'g. General, L. and A. Mechanical Eng'g. Pueblo, Colo., Business, L. and A. Electrical Eng'g. General, L. and A. General Science. Electrical Eng'g.

General, L. and A.

Fisk, Ira William,

Firebaugh, Esther, Flanders, Junius Aiken, Fosler, Clarence Anthony, Fowler, Chester Charles, Frey, George Earl, Froehlich, John Daniel William, Chicago, Fruin, Mary Camille, Fugard, John Reed, Gardiner, Lion, Gardner, Clarence Oran, Gass, Martin John, Gates, Frank Caleb, Gibbs. Clark Lee, Gilbert, Edwin Harland, Goff, Lutie Azuba, Goodspeed, Frank,

Gordon, Inez Dorothy,

Gourley, Margaret Travis, Gourley, Mary Jane, Graham, Mary Adelaide, Gresham, Nina Vivian, Gridley, Mabel Alberta, Griffith, Leland Stanford, Grossberg, Arthur Sariah, Gulley, Laurence Richard, Gundy, Madge Katherine, Hadley, Homer Langdon, Hagie, Franklin Eugene, Haines, Arthur Carleton, Hall, Ethel Lottie. Hall, Irene, Hamilton, Gene, Handlin, William Clyde, Hanes, William Rambo, Hanna, Philip Sidney, Hanson, Mabel Irene, Hardwicke, John Ogden, . Harkins, Claude Howard. Harkness, Columbus Loren, Plain View, Minn.,

Electrical Eng'g. General, L. and A. Robinson. General, L. and A. Glencoe, Savanna, Chemical Eng'g. Chemical Eng'g. Chicago, Freeport, Electrical Eng'g. Civil Eng'g. General, L. and A. El Paso. Newton, Ia., Architecture. Mechanical Eng'g. Chicago, Curtis, Neb., General, L. and A. Danville. Civil Eng'g. General Science. Chicago, General, L. and A. Ewing, El Paso. Electrical Eng'g. Rantoul, General, L. and A. Joliet. Architectural Eng'g. Chillicothe, Mo ..

General, L. and A. General, L. and A. Paxton, Paxton, General Science. Springfield, General, L. and A. Champaign, General, L. and A. Morrison. Chemistry. McNabb. Agriculture. Chicago, Mechanical Eng'g. Urbana, Mechanical Eng'g. Bismark. General, L. and A. Electrical Eng'g. Maroa. Elizabeth, Medical. Chicago, General, L. and A. Urbana, General, L. and A. Cowles, Neb., General, L. and A. Agriculture. Dwight, Lake Fork, General Science. Denver, Colo., Railway Eng'g. Aurora, Civil Eng'g. Music. Urbana. Chicago. Civil Eng'g. Medical. Macomb. Adams, Mechanical Eng'g.

Hatcher, Charles Kenneth, Hayward, De Alton, Heisler, Clarence Schuck, Henry, Donald Alison, Herrmann, George Albert, Hershey, Harry Bryant. Hersman, Francis Craig. Hertel, Clarence Agnew, Hess, Lawrence Jere, Heyle, Franklin Theodore, Hill, Mary Bluebell, Hill, Nathan Richard, Hively, Oscar George. Hjort, Nels Reuben, Hoff, Lucy Virginia,

Hoffman, Paul Alexander, Hoge, Carl Henry, Holch, Ralph Edgar, Holland, Leila, Holmquist, Fred Nelson, Homs, José Maria.

Horner, Harry Sterling. Houston, John Vernon, Hubbart, Curtis Clay, Huckin, Franklin Roscoe. Huffman, Jessie Frances, Hughes, Charles Herbert, Humphreys, Seaver Sanford, Hunsaker, Andrew Franklin. Hunter, Alfred Hughllyn, Hutson, Stella Evangeline, Ilg, George Martin Aloysius, Ingold, Ernest Thompson,

Irving, Edward Franklin. Jackson, Zita Elizabeth, James, Charles Austin, Jenkins, Edwin Milton, Jensen, George Leonard, Johnson, Elmer Lars,

Quincy. Electrical Eng'g. Business, L. and A. Ottawa, Champaign. Mechanical Eng'g. Urbana. Electrical Eng'g. Peru, Mechanical Eng'g. Taylorville, General, L. and A. Hersman, Agriculture. Freeburg, Agriculture. Evanston, Electrical Eng'g. Peoria. Electrical Eng'g. Champaign, Art and Design. Champaign, Civil Eng'g. Freeport. Civil Eng'g. Chicago. Civil Eng'g.

Chicago Heights,

General, L. and A. Chicago, Agriculture. Wenona, Electrical Eng'g. Gilman, Mechanical Eng'g. Pontiac, Household Science, Agr. Weldon. Civil Eng'g. Farragona, Spain,

Mechanical Eng'g. Rockford, Architecture. Chicago, Civil Eng'g. Philo. Civil Eng'g. Ogden, Medical. Charleston, General, L. and A. Fairmount. Mechanical Eng'g. Business, L. and A. Atkinson, Cobden. Education, L. and A. Mendon. Civil Eng'g. Benton, Household Science, Agr. Chicago. Civil Eng'g. Appleton, Wis.,

Mechanical Eng'g. Mechanical Eng'g. Cornland, General, L. and A. Streator, Civil Eng'g. Chester, Railway Eng'g. Vermont, Chicago. Civil Eng'g. Springfield, Agriculture.

Johnson, Ray Grant,
Johnson, William Chance,
Johnston, Allen G,
Jones, Blanche,
Jones, Bruce Leroy,
Jones, Frank Schall,
Jones, Truman Nathaniel,
Jordon, Myron Kendall,
Kaeser, Emil Frederick,
Kagy, John Larimer,
Kays, Lucile Emma,

Kiedaisch, Karl. Kimball, Omer Henry, Kincaid, John Kennedy, Kiner, Henry Clyde, King, Bruce Adams, Kirk, Elizabeth,

Knapp, Warren Emerson, Knox, Samuel Miles, Jr., Korsmo, Amund Marius, Kraft, Eugene William, Kratz, Ethel Gyola, Kreiling, Chris Herman, Kressman, Fred William, Lake, Mrs. Effie Estelle, Lamb, Carter Herbert, Lang. LeRoy, Large, George Pence, Laughlin, Ely Vail, Lee, Charles Bopes, Lee, Gertrude Ann,

Lescher, Frank Mills, Libby, Howard Chard, Decatur, Civil Eng'g. Champaign, Civil Eng'g. Carlyle. General Science. General, L. and A. Urbana, Municipal Eng'g. Wheeler, Ind., Mechanical Eng'g. Batavia. General, L. and A. Chicago, Savov. Civil Eng'g. Highland, Agriculture. General, L. and A. Salem, Phoenix, Ari.,

Household Science, L. and A. Keokuk, Ia., Civil Eng'g. Methuen, Mass., Electrical Eng'g. Athens, Agriculture. Geneseo, Civil Eng'g. Plymouth, Agriculture. Decatur.

Household Science, L. and A. Evanston, Chemical Eng'g. Agriculture. Sheffield, Civil Eng'g. Elgin, Mechanical Eng'g. Collinsville. Champaign, Library, L. and A. Civil Eng'g. Forest City, Chemical Eng'g. Chicago, Champaign, Music. Electrical Eng'g. Chicago, Monticello, Ia., Agriculture. Civil Eng'g. Owaneco, Pittsfield, General Science. Agriculture. Aledo. Champaign,

Household Science, L. and A. Topeka, Kan., Architecture. New London, Wis.,

Municipal Eng'g.

Lindberg, Edward Ferdinand

Jaco Lindley, Fleetwood Herndon, Linn, James Howard, Linton, Margie,

Jacob, Cherokee, Ia., on, Springfield, Winnetka, Lewistown,

Electrical Eng'g. Business, L. and A. Business, L. and A. General, L. and A. Locke, Walter Coutant, Lofquist, Harry Stephen, Lord, Maurice Frank, Lund, James Charles, Lynn, John Elliott,

McAllister, William Knowlton, McBride, Owen Earl, McCaskey, Clare Parsons, McConoughey, Mabel May,

McCool, Charles Edward, McCrea, Hugh Allen, McGinnis, Harvey, McKelvey, Arthur Wilson, McMillan, Eugene Campbell, Majundar, Santosh Chandra,

Mann, Jessie Valentine,
Mann, Mary Elizabeth,
Mansfield, Warren Moore,
Manspeaker, Lewis Vinton, Jr.,
Marsh, Daniel,
Marti, William Christoph,
Martin, Arselia Bessie,
Martin, Luta,
Maryatt, Elmer Fauntleroy,

Mason, Ralph Gardiner,
Matthews, Bessie Glenn,
May, Helen Buckingham,
May, William Wyman,
Meeker, Maurice Seibert,
Melton, Arthur Franklin,
Melton, James Leslie,
Merry, Carl Emmett,
Millar, Charles Ernest,
Miller, John J,
Mills, Clifford Pusey,
Mills, John McCuen,
Mojonnier, Olivier William,
Munroe, Courtland Leroy,

LaSalle, Civil Eng'g.
Kewanee, Electrical Eng'g.
Plano, General, L. and A.
Paxton, Mechanical Eng'g.
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Business, L. and A.
Wenona, General, L. and A.
Chicago, Architecture.
Chicago, Business, L. and A.
Chicago,

Household Science, L. and A. Freeport, Civil Eng'g. Alton, Electrical Eng'g. Aurora, Mechanical Eng'g. Sparta, General, L. and A. Carthage, Mechanical Eng'g. Calcutta, Bengal, India,

Agriculture. Oak Park, Library, L. and A. Gilman, General, L. and A. Woodhull, Mechanical Eng'g. Champaign, Civil Eng'g. Weldon, Civil Eng'g. Chicago, Chemical Eng'g. Atlanta, Ia., Arch. Decoration. Oakland, General Science. South Haven, Mich.,

Electrical Eng'g. Downers Grove, Agriculture. Champaign, General, L. and A. Danville, General, L. and A. Rochelle, Business, L. and A. Peoria. Agriculture. Amboy, Chemistry. Marion, Ky., Architectural Eng'g. Urbana, Ceramics. Mattoon, Chemistry. Chemical Eng'g. Geneva, McNabb, Agriculture. Milwaukee, Wis., Ceramics. Highland, Chemistry. River Forest, Electrical Eng'g. Murray, Everett Bodman, Musser, Frank Stanley, Mylrea, Thomas Douglas, Nash, Charles Anson, Neal, Essie Edwina, Neubauer, Ella Cora, Nickell, Lloyd Francis, Nolte, Charles Beach, Nuckolls, Mary Elizabeth, Oard, Jessie Marie, Oberdorfer, Henry Dixon, Osborne, Isabel Mary, Ovitz, Ernest G, Parkin, Walter Harrah, Parks, Harvey Alvah, Parks, Laura A, Parsons, Lura Elizabeth, Patton, Leigh Klumb, Pearce, Ira, Pease, Elva Maude, Pellens, Louise Josephine,

Penn, Albert, Perry, Edna Maude, Pettigrew, James Quinton, Phillips, Lawrence Clifford, Pinkerton, Francis Elmore, Ir., Pollard, Albert Rumble, Pollard, Henry, Ponzer, Emma, Poorman, Amy, Pope, Charles Samuel, Post, George Earl, Potter, Charles Pruitt. Powers, Mark Elmer, Quayle, Robert Harwood, Railsback, Fay Dillon, Railsback, Howard Marion, Rainey, Edward Cleveland, Ramser, Charles Ernest, Rayner, William Horace, Rebman, Gail,

Chicago, Civil Eng'g. Lena, Civil Eng'g. Chicago, Civil Eng'g. Elizabeth, Electrical Eng'g. Chicago. General, L. and A. Highland. General, L. and A. Farmer City. General Science. Mattoon, Mechanical Eng'g. Urbana, Household Science, Agr. Kankakee, General, L. and A. Marion. Architectural Eng'g. Peoria. General, L. and A. Mineral Point, Wis., Medical. Galva. Business, L. and A. Minonk. General Science. General Science. Ft. Wayne, Des Plaines, General Science. Chicago, General, L. and A. Champaign, Civil Eng'g. Harvey. General, L. and A. Ft. Wayne, Ind.,

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Reeder, Claude Hazlett, Rich, Mary Frederica, Richards, Percy McClure, Richardson, Carl Barrows, Ricketts, Clara Agnes, Riesche, Robert Herman, Ripley, Charles Trescott, Risser, Ralph Granville, Robbins, Frank Anson, A.B.,

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Robbins, Glen Lewis, Robbins, Joseph, Robert, John Alcide, Robinson, Charles Jason, Robinson, Willis Singleton, Rodgers, Robert Beam, Rohrer, Minnie Genevieve, Roth, Jay Frederick, Rounsville, Roy Winthrop, Rowe, Howard Lester, Rowland, Claude Kerlin, Rundles, John Clinton, Rusk, Ralph Leslie, Russell, Frank Pores, A.B.,

Russell, Nondas Caroline, Russell, Wilvan Jesse, Samuels, Thomas Walter, Sater, Carl DeWolfe, Schumacher, Ramon. Schwarzkopf, Florence Antoi-

Scoggin, Berenice, Seed, Essie May, Seely, John Gordon, Seymour, Robert Ross, Seymour, Walter Alfred, Shaw, Guy Loren, Shaw, Guy Ray, Sheriff, Ralph Edwin, Shively, Edith Olga, Shrader, Frank K,

Watseka, Electrical Eng'g. General, L. and A. Springfield, Peoria, Electrical Eng'g. Tampico. Civil Eng'g. Champaign, General, L. and A. Chicago, Civil Eng'g. Oak Park. Railway Eng'g. Kankakee, Agriculture.

(Yankton Coll.), 1907, Orient, S. Dak., Electrical Eng'g. McCool, Ind., Agriculture. Congress Park, Electrical Eng'g. Lacon, Civil Eng'g. Manteno, Agriculture. Mechanical Eng'g. Chambaign, Riverton. Electrical Eng'g. Somonauk, General, L. and A. Mechanical Eng'g. Henry, Kewanee. Mechanical Eng'g. Elgin, Chemical Eng'g. Martinsville, General, L. and A. Ft. Wayne, Ind., Agriculture. Windsor, Mo., General, L. and A.

(Colgate Univ.), 1901, Lacon, Agriculture. Chicago, Arch. Decoration. Pana, Business, L. and A. E. St. Louis, General, L. and A. Columbus, O., Agriculture. St. Joseph, Mo., Architecture. Chicago,

nette, Household Science, L. and A. Millington, General, L. and A. Bridgeport, General Science. Oswego, Agriculture. Agriculture. Henning, Henning, Agriculture. Agriculture. Rockport, Civil Eng'g. Vinton, Ia., Reynolds, General, L. and A. Mahomet, General, L. and A. Business, L. and A. Knoxville.

Simmons, Harold Hoyt, Simpson, Francis Marion, Sinnock, Pomerov. Smith, Mabel, Smith, Raymond Read, Snyder, James Blaine, Sonntag, Arthur Henry, Sontag, Joseph Harold, Southwick, Joe Dare, Sparks, Ray Carlisle, Stanger, Otto Charles, Steele, Mae Knight, Stein, Milton Frederick Stewart, Harold Wilson, Stewart, James Samuel, Stewart, John Wesley, Stone, Edison Harris, Stout, John Philemon, Strauch, Clara Marie,

Strauch, Hilda Louise,

Streff, Albert Paul, Sumay, Oscar Jose,

Swett, William Claude, Swisher, Charles Lee, Swisher, William James, Tagore, Rathindra Nath, Talbot: Kenneth Hammett. Teal, Lois Leota, Tear, Herbert Lloyd, Thomas, Warren Wilkinson, Thompson, Samuel Matthew, Thomson, Andrew. Thurston, Lena May, Tobey, Harold Eugene, Turnock, Lawrence Charles, Van Dorsten, Josephine, Van Hook, Forest Clyde, Voorhess, Kathryn Craig, Vosburgh, Frank Jones,

Blue Mound, Civil Eng'g. Vienna, Agriculture. Quincy, Civil Eng'g. Urbana, General, L. and A. Chicago, Ceramics. Moweagua, Electrical Eng'g. Alton. Electrical Eng'g. Plainfield, Civil Eng'g. Flora, General, L. and A. General, L. and A. Bushnell, Barrington, Chemical Eng'g. Bloomington, General, L. and A. Municipal Eng'g. Chicago, Urbana, Agriculture. Toulon, Civil Eng'g. Evanston. Civil Eng'g. Mechanical Eng'g. Quincy. Glenarm, Agriculture. Chadwick,

Household Science, L. and A. Chadwick,

Household Science, L. and A. Chicago, Civil Eng'g. Buenos Ayres, Argentina,

Electrical Eng'g. Civil Eng'g. Elgin, Wellington, Mathematics, S. Mendota, Civil Eng'g. Balpore, India, Agriculture. Urbana. Civil Eng'g. Arcadia, Ind., General, L. and A. Electrical Eng'g. Chicago, Newman, Civil Eng'g. Harrisburg, General, L. and A. Chicago, Mechanical Eng'g. Winnetka, Household Science, S. Civil Eng'g. Galesburg, Chemical Eng'g. Elkhart, Ind., Champaign, General Science. General Science. Mt. Pulaski. Bushnell. General, L. and A. Oak Park, Mechanical Eng'g. Waddell, Charles Archibald, Waddell, James Vance, Wagner, Robert Charles, Jr., Walker, Charles M, Walledom, Jesse Jacobsen, Walsh, William Joseph, Weaver, Maud, Weiss, John Frank, Westlund, Albert Frank, White, Burt F, White, Frank, Whitehead, Otis Gunn, Wiener, Charles Arthur, Williams, Ceil Edwin, Williams, Roger Crawford, Williams, Warren Stephen, Williamson, Maude, Wilson, Lucy Gray,

Princeton, Mechanical Eng'g. Municipal Eng'g. Taylorville, Champaign, Civil Eng'g. St. Joseph. Mechanical Eng'g. Chicago, Civil Eng'g. Civil Eng'g. Monticello, General, L. and A. Harrisburg, Mechanical Eng'g. Aurora, Chicago. Mechanical Eng'g. Longview, Agriculture. Agriculture. Shelbyville, Civil Eng'g. LaGrange, Municipal Eng'g. Champaign, Illiopolis, Electrical Eng'g. Grand Ridge. Chemical Eng'g. Chemistry. Chambaign. Houston, Tex., General, L. and A. Washington, Ia.,

Library, L. and A.

Withycombe, Robert, B.S.,

(Oregon Agr. College), 1901, Corvallis, Oregon, Wolf, John Emerson, Wolfe, Irmagard Huldah, Woodworth, Harry C, Wray, Robert Charles, Wright, Sidney Barber, Wussow, August Frank Daniel, Yehling, Albert Charles, Yunk, Nellie, Zahrobsky, Edward Frank, Zearing, Joseph Hazen, Zehner, Hugo, Zilly, Marie Louise, Zink, Herbert Charles,

Agriculture. Mechanical Eng'g. Lanark, Polo. General, L. and A. Agriculture. Chicago, Agriculture. Ursa, Rock Falls. Electrical Eng'g. Chicago, Chemical Eng'g. Sparta. Electrical Eng'g. Sandoval. General, L. and A. Architectural Eng'g. Chicago, Business, L. and A. Princeton, Mechanical Eng'g. Belleville, General, L. and A. Champaign, St. Clair, Mich., Mechanical Eng'g.

## SOPHOMORES

Abbott, Alfred Nalle, Abbott, Elizabeth Mabelle, Abbott, Frances Dorcas, Alexander, Alfred, Altekruse, Ira Blair, Anderson, Harold Brother, Saltillo, Mexico, Municipal Eng'g. Hoopeston, General, L. and A. Morrison, General Science. Architecture. Chicago, Urbana, Mechanical Eng'g. Civil Eng'g. Joliet.

Anderson, Russell Adams Mc-

Applegate, Arthur Leslie,
Arends, Fred George,
Argüelles, Angel Severo,
Armstrong, Paul W,
Averill, William Armitage,

A.B., (Univ. of Chicago), 1902, Ft. Wayne, Ind.,
Avey, Daniel Manning,
Badger, Henry Stillman,
Bailey, Ernest Henning,
Baird, Mrs. Bertha Salsich,
Balis, William Henry,
Barkley, Guy Carleton, Jr.,
Barry, Pierce,
Barron, Christine Dodge,
Bashen, George Bergen,
Bauer, Otto Anton,
Baum, Benjamin Franklin,

Phoenix, Ariz.,

Bean, Ralph Howard,
Bear, Louis Raymond,
Beatty, Edwin Morris,
Beemer, Alexander William,
Bell, Charles Manley,
Benjamin, Louise Pearl,
Bennett, Frank Myer,
Benson, Bertha Endora,
Bentz, George William,
Berger, Adda Elizabeth,
Berkema, Ira John,
Bernreuter, Walter,
Berns, Max Arnold,
Berolzheimer, Hannah Beulah,

Beveridge, Charles Eden, Black, Charles Day, Black, Grace Josephine, Bloomfield, Mat, Bollman, Minnie Joanna, Bond, George Thomas, Bornmann, John Henry, Jr.,

Curdy, Bloomington,
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Electrical Eng'g.
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Ceramics. Civil Eng'g. Mattoon, Elgin, Electrical Eng'g. Geneva, Electrical Eng'g. Cincinnati, O., Library, L. and A. Agriculture. St. Charles. Carlyle, Civil Eng'g. Mechanical Eng'g. Pontiac, General, L. and A. Champaign, Bowen, Mechanical Eng'g. Horton, Kansas, Architecture. Phoenix, Ariz.,

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General, L. and A.

Casner, Civil Eng'g.

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Urbana, General, L. and A.

Oklahoma City, Okla., Medical.

Champaign, General, L. and A.

Charleston, Agriculture.

Quincy, Chemistry.

Boston, Frantz William, Brady, Joseph Louis, Brackensiek, Jessie Delight, Braley, Ross Preston. Bramhall, Ralph Roger.

Bregger, Thomas, Briggs, Strother Ambrose, Brooks, Henry Morgan, Broughten, May Alice,

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Campbell, Kent,
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Carter, Roy Rudy,
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Chamberlain, Lucius Orville,
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Chapin, William Leber,
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Clark, Richard Wagner,

Yorkville, General Science.
Mooar, Ia., Architectural Eng'g.
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Michigan City, Ind.,

Architectural Eng'g.
Rock Island, Agriculture.
Minier, Agriculture.
Urbana, Electrical Eng'g.
Marysville, Kan.,

General, L. and A. Quincy. Civil Eng'g. General, L. and A. Urbana, Rushville. General, L. and A. Medical. Forest City, Ia., Lawrenceville, General, L. and A. Business, L. and A. Melvin, Taylor Ridge, General, L. and A. Chicago, Mechanical Eng'g. Carbondale, Architecture. Art and Design. Bunker Hill, Electrical Eng'g. Chicago, Civil Eng'g. Quincy, Electrical Eng'g. Quincy, Joliet, Civil Eng'g. Business, L. and A. Fairbury, Mechanical Eng'g. Hillsdale, Champaign, Civil Eng'g. LaHarpe, Agriculture.

General, L. and A. 1905, Champaign, Agriculture. LaHarpe, Civil Eng'g. Geneva, Municipal Eng'g. Danville, Jacksonville. Civil Eng'g. Civil Eng'g. Chicago, Railway Eng'g. Chamaign, Electrical Eng'g. Peru, Electrical Eng'g. Springfield, Agriculture. Sullivan, Peoria. Civil Eng'g. Agriculture. Carthage,

Clarke, Ethel,

Clendenin, Clarence Rees, Clow, Raymond Delos, Coe, Harry Harmon, Coffin, Francis Albert, Cogswell, George Owen, Cogswell, Robert Coman, Coleman, William Francis, Colvin, Albert Adalbert, Compton, Richard Osborne, Connard, Arthur Foster, Connelly, Martin Francis, Connelly, Sarah Ann, Cooper, Agnes Bouton,

Cooper, George Alfred, Cornwell, Earl Zink, Corrie, James Robert, Cox, Edna Elizabeth, Cox, Kenneth Hiram, Cross, Wallace Jackson, Crow, Barbara, Cullings, Ross Elmer, Cummings, Preston Wirum, Cutler, Watts Cyrus, Dale, William Wilbur, Dallenbach, Karl M, Dallenbach, Louis Edwin, Danielson, Willis Chester, Davis, Carroll Harris, Davis, Harry Fulton, Davis, Hugh Youtsey, Day, Warren William, Deuchler, Walter Edward, Devine, Robert Philip, Dewitt, Emma Ethel,

Dexter, Grace Ella, Dillon, Edward Leland, Dobbins, John Alexander, Noblesville, Ind.,

Household Science, S. General, L. and A. Springfield. Crystal Lake, Mechanical Eng'g. Dixon, Electrical Eng'g. Electrical Eng'g. Salem. Champaign, Architectural Eng'g. Champaign, Architectural Eng'g. Chicago. Mechanical Eng'g. Wheaton. Civil Eng'g. Agriculture. Chicago, Decatur, Mechanical Eng'g. Chicago, Civil Eng'g. Hume, General, L. and A. Kansas City, Mo.,

General, L. and A. Aurora, Mechanical Eng'g. Civil Eng'g. Paris. St. Francisville. Agriculture. Sheridan, Ind., General, L. and A. Architectural Eng'g. Moline. Campbell Hill, Mechanical Eng'g. Springfield, General, L. and A. Electrical Eng'g. Elmwood, Sheffield. Mechanical Eng'g. Agriculture. Oswego, Blue Island, General, L. and A. Champaign, General, L. and A. Champaign, Musio. Leland, Civil Eng'g. Indianapolis, Ind., Civil Eng'g. Keokuk, Ia., Architectural Eng'g. Architectural Eng'g. Lincoln, Architecture. Peoria, Civil Eng'g. Aurora, Civil Eng'g. Chester, Broadlands,

Household Science, L. and A. Urbana, General, L. and A. Urbana, Agriculture. Lake Anors, S. Dak.,

Mechanical Eng'g.

Doerr, Robert John, Douglas, Ethel Leila, Doyle, Edgar Dwight, Dumond, Louis August, Dumser, Leo Alfred, Duncan, Landale William, Dunlap, Andrew Melvin, Dunlap, Ernest Albert, Dunlap, Robert Muratt, Dunsheath, Leroy Morrell, East, Warren Errett, Easterbrook, Harry David, Edelstein, Clarence Isidore. Edwards, Roy Vincent, Eells, Willard Clark, Eide, Randolph, Eisenmayer, Arthur Wesley, Jr., Granite City, Ellis, Charles Lyman, Ellison, Charles Courtney, Ellsberry, Lloyd Kirk, Endsley, Frederick LeRoy, vonEngelken, Marie Jeanette, Enger, Thorbjorn Kjus,

Engstrom, Charles Ludwig, Erikson, Clifford Erik Joseph, Eymann, Joe, Fablinger, William Raymond, Fairbrother, Katharine May, Ferguson, Irwin Glenn, Finkenbinder, Walter Edison, Fischer, Arvin William, Fishback, William Murphy, Fisher, Robert Forrest, Fizzell, Robert Bruce, Flanders, Harvey Harrison, Flatt, Harrison Obiah, Fornof, John Renchin, Foster, Joseph Kyle, Franken, Ewell Gerdes, Fredenhagen, Victor Byron, Freeman, Paul Woodie,

Chicago, Architecture. Library, L. and A. Chicago, Electrical Eng'g. Bloomington, Earlville, Civil Eng'g. Railway Eng'g. Elgin Princeton, Ind., Agriculture. Aledo, Electrical Eng'g. Electrical Eng'g. Aledo, Savoy, Civil Eng'g. Aurora, Mechanical Eng'g. Electrical Eng'g. Maroa, Electrical Eng'g. Saybrook, Electrical Eng'g. Chicago, Urbana, Civil Eng'g. Civil Eng'g. Mazon, General, L. and A. Lee, General, L. and A. Chicago Heights, Mech. Eng'g. Alton, General, L. and A. General, L. and A. Mason City. Milford, Civil Eng'g. Dubuque, Ia., General, L. and A. Los Angeles, Cal.,

Electrical Eng'g. Peoria, Municipal Eng'g. Civil Eng'g. Aurora, Mechanical Eng'g. Graymount, Elizabeth, Architectural Eng'g. East St. Louis, General, L. and A. Urbana, Civil Eng'g. Kent, General Science. Bensenville, Agriculture. Marshall, General, L. and A. Gibson City, Electrical Eng'g. Taylorville, General, L. and A. Glencoe. General, L. and A. Carrollton. Medical. Business, L. and A. Streator, Mt. Carmel. General, L. and A. Chandlerville, Medical. Downers Grove, Civil Eng'g. Decatur, Electrical Eng'g.

Fuller, Leon Elmer, Gaby, Lewis Chancee, Gallaher, Bessie Estella, Ganguley, Nagendra Nath, Garland, Frank Dean, Garrett, Leona Belle, Garrett, Ray, Garza, Juan Jesus, Gaston, Omar, Gates, Orus Ethan, Gatlin, Lillian, Gay, Harry Guilford, Genung, Ivaloo, Gibbons, Alice May, Gibbons, Earl Espey, Gibbs, Fred, Gilman, George Andrew, Gilstrap, Ray Mathias, Glenn, William Meharry, Goff, Cicely Sarah, Goodenough, Arthur Sherman, Goodman, Ezra, Goodman, Lulu, Goodman, Marion Frances, Goodspeed, Nathan Lee, Grannis, Frank Cravens, Grannis, Laurence Royce, Grant, Will Chalmers, Green, Howard S, Gregory, Lenna Mabel, Griewank, Arthur Carl, Griffin, Dwight, Griffith, Rolland Wheelock, Griffiths, Walter Milo, Groener, Emil Carl, Groweg, Edward Adolph, Jr., Hager, Earl Norman, Hall, Chester Irving, Hammer, Raymond Franklin, Hanley, James Thomas, Hanson, Herman Ludwig, Hanzlik, Edward John,

Elgin, Chemistry. Litchfield, Civil Eng'g. Homer, General, L. and A. Barisal, Bengal, India, Champaign, Ceramics. Momence. Household Sci., Agr. E. St. Louis, General, L. and A. Satillo, Mexico, Electrical Eng'g. Kell, Architectural Eng'g. Electrical Eng'g. Tuscola. General, L. and A. Waukegan, Ottawa. Electrical Eng'g. Rantoul, Household Science, Agr. Gardner, General, L. and A. Hoopeston, Mechanical Eng'g. Lincoln, Chemistry. Harristown, Agriculture. Tacoma, Wash., Architecture. General, L. and A. Champaign, General, L. and A. Rantoul. Architecture. Urbana, Electrical Eng'g. Chicago, General, L. and A. Champaign, Chicago, General, L. and A. Joliet, Railway Administration. Chicago, Agriculture. Chicago, Civil Eng'g. Springfield. General, L. and A. Sterling, Municipal Eng'g. Moweaqua, General, L. and A. Michigan City, Ind., Civil Eng'g. Clinton. Electrical Eng'g. Granite City. General, L. and A. Pontoosuc. Mechanical Eng'g. Batavia, Civil Eng'g. Defiance, Ohio, Civil Eng'g. Dwight, Business, L. and A. Chicago, Electrical Eng'g. Champaign, Chemical Eng'g. East St. Louis, Civil Eng'g. Mechanical Eng'g. Paxton, Chicago, Civil Eng'g.

Harmon, Murvin Terry,	Lebanon,	Agriculture.
Harris, Ralph Cohn,	Chicago,	Electrical Eng'g.
Harrison, Benjamin Harrison,	Danville,	Chemical Eng'g.
Harrison, Donald Frederick,	Urbana,	Electrical Eng'g.
Haskell, Walter Millard,	Sterling,	Mechanical Eng'g.
Haskett, Paul Edwin,	Baxter Sprin	g, Kan., Medical.
Hassenstein, Carl Frederic,	Chicago,	Architectural Eng'g.
Hattrem, Warner Madison,	Marseilles,	Chemical Eng'g.
Healy, Charles Henry,	Rochelle,	Agriculture.
Hedgcock, William Everett,	Plymouth,	Agriculture.
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Krafft, Quincy,
n, Carthage,
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Blue Island,
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Mechanical Eng'g.
Electrical Eng'g.
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Burnett, Fred William, Burno, Louis Kelsey, Burns, Joe Kossuth, Burns, Josephine Elizabeth, Burns, Mabel Blanche,

Burns, Ruth Mitchell, Burson, Norman Alexander. Burt, Paul Gordon, Burton, Earl K, Burton, Laurence Vreeland. Burwash, Arthur Ernest, Burwash, Clarence Fletcher, Bussell, Frank Pores, Butler, Crillis Newton, Butler, Roland Glenn, Butters, Howard Monreau, Butzer, John Martin, Buyers, Donald Erskine, Byrns, Roscoe Aaron, Caldwell, Brice Jonas, Caldwell, Charles Edwin, Jr., Caley, Floy E, Caley, Mary Clellah, Camp, Willard Russell, Campbell, Neil Nelson, Candor, Sarah Rebecca. Cannon, Fermor Spencer,

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Davis, Charles Krum,
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Dazey, Alba William,
Dean, Oscar McClintock,
DeButts, Cary Edward,
Decker, Leon Morton,
Dewey, Herschel Hinning,
DeWolf, Eva Clare,
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Diaz, Waldemar Ramon,

Diederichs, Hans Otto, Diener, Wayne Rufus, Dillavou, Roscoe Clark, Dittmer, Harry Leroy, Dixon, Noah Matheny, Dole, Arthur Lucian. Dole, Ira Burton, Dollahan, Herman Leander, Dollarhide, Helen, Dollarhide, Mary Edith, Dombrowski, Walter, Doonan, Edward Joseph, Doty, William Shannon, Downs, Orrie Hagar, Drake, Pauline Hortense, Drew, Beatrice Lillian, Drummond, Ethel Reynolds, DuBois, Charles Rhesia, Dunham, Arthur Barrett, Durley, Williamson Mark, Eades, Ted Calbeck, Eakin, Morton Samuel, Eames, Melville Joseph, Eastburn, David Leslie, Eaton, Clifford Reed, Ebert, Lawrence Rudolph, Eckhardt, Erwin William, Edler, George Christian, Eells, Zelma Lucinda, Egan, Ellis Percival, Eichman, Ira Samuel, Eidam, Arthur Edward Emil, Paris. Civil Eng'g. Milford, General, L. and A. Camp Point, Civil Eng'g. Pontiac, Architectural Eng'g. Chicago, Chemical Eng'g. Plano, Architectural Eng'g. General, L. and A. Chicago. Champaign, General, L. and A. Ranchos, Buenos Ayres,

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Electrical Eng'g. Civil Eng'g. Electrical Eng'g. General, L. and A. Architecture. Business, L. and A. Electrical Eng'g. Mechanical Eng'g. Electrical Eng'g. General, L. and A. General, L. and A. Electrical Eng'g. Civil Eng'g. Agriculture. Electrical Eng'g. Music. General, L. and A. General, L. and A. Civil Eng'g. Architecture. Agriculture. General Science. Mechanical Eng'g. Medical. Electrical Eng'g. Chemical Eng'g. Civil Eng'g. Electrical Eng'g. Agriculture. Household Sci., Agr. General, L. and A. Mechanical Eng'g.

Electrical Eng'g.

Ekblaw, Walter Elmer, Elfmann, William Henry, Ellison, Edgar George, Enger, Arthur Ludvig, Epps, Jessie Belle, Epstein, Abraham Solomon, Erickson, Carl Elmer, Erickson, Edwin James, Erlbacher, Harriet Clare, Essington, John Weston, Etherton, James Everette, Evans, Walter Thomas, Everingham, Charles, Ewbank, John Roscoe, Fairhall, Lawrence Turner, Farley, Claude W, Farrar, Harry Lewis, Faught, Gail, Faxon, Orson Evans, Feallock, Walter Herman,

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Fisk, Roscoe Roby,
Fitzpatrick, Ulysses Simon,
Flanders, Harry Taylor,
Flaugher, John Howard,
Fleming, Rose Grahame,
Fletcher, Elizabeth Blair,
Fletcher, Loren Albert,
Foersterling, Frederick John,
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<sup>\*</sup>Deceased.

Foley, John Warner, Foran, Patrick Henry, Forbes, George McMillan, Ford, Carlotta Marks, Ford, James Walter, Jr., Fox, Frank Alfred, Francis, Howard Milton, Francis, Ruby Louise, Fraser, Kenneth Gatiss, Frazee, John Delavan, Frazee, Mabel, Freese, Ralph Stanley, Fremer, Otto William, Froehde, Frederick Charles, Froehlich, Milton Heckscher, Frost, Don Harold, Fryer, Paul Glover, Fuessle, Milton Theodore. Fullenwider, Wilfred Truman, Galeener, Wilbur Kenneth, Garabedian, Garabed Arshag

Gardner, James Lewis,
Garibaldi, Laurence Andrew,
Garrity, Leo Francis,
Garver, Earl,
Gasman, William Frederick,
Gehrke, Fred Jacob,
Genung, Elisha Nelson,
Gerber, Guy Theodore,

Gerlach, Miriam,
Gerow, Theodore Manvel,
Gerrard, Archibald Cochran,
Gest, Ben,
Gilkerson, Harry Charles,
Gleason, Nellie Magruder,
Glenn, Arthur Barlow,
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Glover, Leonard Wood,
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Goffeney, Otto Julius, Gonnerman, Arthur William, Goodrich, Alonzo Charles, Jr., Gordon, Willis Owen, Gorham, Edwards Doremus, Gorman, Timothy, Gossett, Earl Jones, Gossett, John Eubanks, Grabowski, Thaddeus Marion, Graham, Paul John, Gray, Frank Brownfield, Gray, Fred Jay, Green, Ethel Emma, Greene, Lois,

Gregg, Walter Norman, Grieser, Harry Arthur, Grigsby, Owen Eugene, Gross, Meda Floy, Grove, Chester Hayward, Groves, Donald Karel, Groves, Evangeline Eunice, Groves, Pauline Trabue, Guild, Chester Warren. Guild, Frank Earl, Gumaer, Percy Wilcox, Gunderson, Alfred Joseph, Gustafson, Joel Nathaniel, Gutting, Leo Arthur, Gwinn, Avis, Gwinn, Ethel, Haeffner, John George, Hagedorn, Frederick Arthur, Haines, Forrest Livingston, Hale, Ralph Sumner, Hallett, Margaret Hope, Halliday, Vernon, Haltom, Horace Marie,

Hamilton, Edna Marie, Hamilton, Edwin S, Hamilton, Walter,

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Household Sci., Agr. Fairbury, General, L. and A. Quincy. Agriculture. Electrical Eng'g. Peoria. Atwood. General, L. and A. Electrical Eng'g. Ottawa, Chemical Eng'g. Chicago, Champaign, General, L. and A. Champaign, General, L. and A. Civil Eng'g. Wheaton. Warren, Architectural Eng'g. Buffalo, N. Y., Electrical Eng'g. Chicago, Agriculture. Chicago. Architecture. Electrical Eng'g. Ottawa. Urbana. General, L. and A. Urbana, General, L. and A. Civil Eng'g. Oak Park. Electrical Eng'g. Rock Island, Medical. Forrest. Business, L. and A. Chicago, Aspen, Colo., General, L. and A. Clinton, Mich., Chemical Eng'g. Mooresville, Ind.,

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Hammers, William Emerald,
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Hanke, Harry Allen,
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Hansen, Viggo,
Hanson, Ross Arnold,
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Harmon, Raymond Watts,
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Harms, Louis Arthur Peter,
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Harter, Vera Zeta,
Harvey, Wilber Richey,
Hatch, Edith Irene,
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Haven, Mabel Hallie,
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(Univ. of Mich.), 1904.

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El Paso,
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Freepert,
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LaBelle, Johnston Noble,
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Lagerstrom, David Reuben,
Lagniton, Isabelo Jemeno,
Lambert, Juliette Vitalique,
Landor, Harry,
Landor, Walter,
Landt, Charles Palmer,
Langdon, Roy Monroe,
Langford, Jessie Lucine.

Larkin, Francis DuLude, Lauter, Carl John, Lavery, Irene Bernadette, Lawrence, William Harrison, Layer, Hugo, Leach, Robert Whittaker, Leake, Mabel Emily, LeCrone, George Montgomery,

Lee, Otis Hoit, Leonard, Frances Bostwick, Leonard, Harold Raymond, Leutwiler, Richard Walter, Leviton, Henry Isadore, Lewis, Edna, Lewis, Hermon, Lewis, Julian Herman. Lewis, Richard Hanna. Licup, Roman, Lightall, Clarence, Lindblom, Ernest Francis, Lindley, June, Lindsey, William Judson, Lindstrom, Arthur William, Lines, Edwin Fuller, Lipps, Lloyd Herger, Litchfield, William Edward,

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McCuen, Glenn William, Macdonald, Ranald, McDowell, Ishmael Worth, McGinnis, Archibald, Jr., McHarry, Jessie, McIntyre, Eva Lyle, McKean, Leonard Albert, McKee, Paul Sloan, McKim, James Lloyd, McKinnie, Earle Clarence, McKinney, Roy Harrison, McLean, John Crocker, McMillen, Sarah Grace, McPike, Josephine Mary, McRobie, Jessie Barbara, Mahler, Hazel Lucia, Mail, Eugene Frederick, Mallary, Ernest Noel, Mallory, Burton Leroy.

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Mann, Alban Whitford, Martin, Maysie, Martin, Sidney Griswold, Mason, Louis, Mason, Mayne Sequin, Mathis, Frances Willard, Matthewson, James Otis, Maver, David Blair, Maxey. Charles Lester, Maxwell, Lena, Mayes, Corwin Spencer, Mench, John George, Meneley, Cora Frances, Meserve, Theodore Decatur, Mess, Elsie,

Mess, Lilian,

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(Okla. A. & M. Coll.), 1903,

Batavia, Mechanical Eng'g. General, L. and A. Gilman, Chicago, General Science. Champaign,

Household Science, L. and A. Elgin, Electrical Eng'g. Villa Grove, General Science. Chicago. Civil Eng'g. Mt. Pulaski, Business, L. and A. Electrical Eng'g. Buda, General, L. and A. Champaign, DeKalb, Agriculture. Chicago, Civil Eng'g. General, L. and A. Mt. Vernon, Lawrenceville, General, L. and A. Illiopolis, Medical. Monticello, Electrical Eng'g. Rantoul. General, L. and A. Civil Eng'g. Robinson, Benton Harbor, Mich.,

General, L. and A.

Benton Harbor, Mich.,

General, L. and A. Petersburg, Agriculture. Savanna, Business, L. and A. Indianapolis, Ind., Architecture. Atlanta, Agriculture. Lincoln, General, L. and A. Mechanical Eng'g. Taylorville, Palestine, Civil Eng'g. Mechanical Eng'g. Ursa, Beardstown, General, L. and A. General, L. and A. Tuscola, Louisville, General Science. Electrical Eng'g. Oneida, Toulon. Business, L. and A. General, L. and A. Urbana, Electrical Eng'g. Champaign, Anderson, Ind., General, L. and A. Oskaloosa, Ia., General, L. and A. Stillwater, Okla.,

Household Science, Agr.

Morse, Wendell Richard, Morton, Joe Kelly, Motsinger, Edward Francis. Moyer, Marion Catherine. Mueller, Gustav Henry, Myers, Arthur Leslie, Myers, Jacob William, Nafziger, Henry. Neal, Harry Folsom, Neff, Edna Elizabeth. Neininger, Alonzo Beda, Nelson, Benjamin, Nelson, James Ray, Nelson, Ralph Lewis, Nettleton, Elizabeth. New, George Raymond, Newcomb, Pearle Elizabeth. Nichol, Catherine Louise, Nichols, Edd Melancthon, Nichols, Harvey Baldwin,

Nielsen, Gordon Frithiof, \*Noble, Earl Goddard, Noble, Ralph Mathew, Nuttall, Everett Franklin, O'Beirne, William Francis, Odell, Frank Englehart, O'Donnell, Francis Malachy, O'Donnell, Hugh, Ogden, Ethel Genevieve, Olmstead, Clarence Eugene, Olson, Gust, Jr., O'Neil, Laurence Winall, Oroso, Vicenta Ylazan.

Ou, Hua-Ching, Pagels, Irving Edward, Palmer, Audrie May, Palmer, Wayne Platter, Palmquist, David Roy, Parker, Gilbert Walter,

Little Rock, Ark., Civil Eng'g. South Bend, Ind., Civil Eng'g. Canton. Civil Eng'g. Chicago, General, L. and A. Carlinville. Mechanical Eng'g. Harvey, Electrical Eng'g. Harrisburg, General, L. and A. Aurora, Electrical Eng'g. Charleston. General, L. and A. Petersburg, General, L. and A. Alton. Civil Eng'g. Chicago. Mechanical Eng'g. Moline. Mechanical Eng'g. Moline. Mechanical Eng'g. Ashton, General, L. and A. Howard, Kan., Agriculture. Chambaign, General, L. and A. Urbana. General, L. and A. Princeton, General, L. and A. Michigan City, Ind.,

Electrical Eng'g. General, L. and A. Paxton, Galesburg, Mechanical Eng'g. Glesburg, Mechanical Eng'g. Flat Rock. General Science. Tolono, Civil Eng'g. Evansville, Ind., Mech. Eng'g. Chicago, Civil Eng'g. Belvidere. Agriculture. Paris, General, L. and A. Genoa. Electrical Eng'g. Revnolds. Electrical Eng'g. St. Louis, Mo., Business, L. and A. Banan, Bantangas, P. I.,

Civil Eng'g.
Canton, China, Agriculture.
Dwight, Civil Eng'g.
Chicago, General, L. and A.
Chicago, Civil Eng'g.
Moline, Electrical Eng'g.
Champaign, Civil Eng'g.

<sup>\*</sup>Deceased.

Parker, Hale Giddings,
Parker, Paul Clinton,
Parkhurst, Roger William,
Parrish, Carrie Marie,
Paul, Harry John,
Paulson, Norman Boyer,
Pease, Lewis Adams,
Pegram, William Alexander,
Pereira, Morton Leve,
Perry, Eleanor Farrand,

Pervier, Mabel Inez,

Peterson, Alvin Ray,
Peterson, Erle Sherman,
Petry, Charles Aloysius,
Philips, Wilson Alexander,
Phillips, Lester Leroy,
Pickering, John Lyle, Jr.,
Pickett, Roy Ernest,
Pieper, John,
Pierce, Maurice Campbell,
Pierson, Roland Decker,
Pincomb, Helen Maude,

Pistorius, Barnhard Henry, Pletcher, Erno Baker,

Polkowski, Harry, Pollock, Charles William, Pond, Frank Hayward, Ponder, Ray Boyd, Poole, Lilian May, Popp, Paul Fred, Portis, Henry, Poston, Emmett Vincent,

Potter, Curran Edgar, Pouk, Margaret Finlayson, Powel, Ellen Catherwood, Prather, Fred Vogel, Pricer, Thomas Newton.

Medical. Chicago, Mattoon, Mechanical Eng'g. Chicago. Civil Eng'g. Momence, General, L. and A. Chicago, Mechanical Eng'g. Lockport, Municipal Eng'g. Electrical Eng'g. Highland, Lincoln, Mechanical Eng'g. . Chicago, Civil Eng'g. Oklahoma City, Okla.,

General, L. and A.

Sheffield,

Household Science, L. and A. Cerro Gordo, General, L. and A. Mechanical Eng'g. Nunda, Chicago, Civil Eng'g. Urbana, Chemical Eng'g. Electrical Eng'g. Sterling, Springfield, Chemical Eng'g. Chicago, Architectural Eng'g. Granite City, Electrical Eng'g. Madison, Wis., General, L. and A. Electrical Eng'g. Augusta, Lenexa, Kan.,

Household Science, Agr. Chicago, Architectural Eng'g. Rochester, Ind.

General, L. and A. Chicago, Agriculture. Seaton, Electrical Eng'g. Chicago, Mechanical Eng'g. Hammond, Mechanical Eng'g. Polo, General, L. and A. Chicago. Mechanical Eng'g. Chicago, Chemical Eng'g. Crawfordsville, Ind.,

General, L. and A.

Quincy, Agriculture.

Streator, Music.

Taylorville, General, L. and A.

Columbus, Ind., Architecture.

Rossville, Mechanical Eng'g.

Purnell, Vern,
Putnam, Leigh Burtis,
Ralston, Stuart Albert,
Ramey, George Erwin,
Ramp, Waldow Lester,
\*Rand, Walter Albert,
Randall, Arthur Edwin,
Ranson, George Audas,
Rathbun, Acors Earl,
Ray, Robert Daniel,
Ream, Walter Joseph,
Reed, Chester Otis,
Reimund, Grace Aileen,
Reinhardt, Rhoda Margaretha,

Renard, George Albert, Renich, Katherine Louise,

Renz, Myrtle Anna,
Retz, Jeanette Estelle,
Rhoads, Robert Bell,
Rice, Charles Clyde,
Richardson, Ross,
Ricketts, Claude Merrill,
Riddle, Lawrence Scott,
Ridgeley, Temple Elliott,
Ries, Lester Samuel,
Rietz, Nellie Melissa,

Rife, Willard Orrin,
Ritchey, Horace Edgar,
Rives, Kent King,
Roark, Raymond Jefferson,
Roberts, Harry Vivian,
Rogers, Anna Sophie,
Rogers, Clarence Alvin,
Rogers, Ethelyn Alice,
Rogers, Vera Holcombe,

Rogers, William Turner,

Mahomet, Mechanical Eng'g. Oak Park, General Science. Caledonia, Electrical Eng'g. Champaign, Architecture. Knoxville, Agriculture. Chicago, Agriculture. Cambridge, Civil Eng'g. Havana, Mechanical Eng'g. Glen Ellyn, Electrical Eng'g. Chicago. Mechanical Eng'g. Peru, Medical. Pittsford, N. Y., Agriculture. Sullivan, General, L. and A. Kansas City, Mo.,

General, L. and A. E. St. Louis, General Science. Woodstock,

Household Science, L. and A. Henning, General, L. and A. Ottawa. General, L. and A. Indianapolis, Ind., Architecture. Bone Gap, Civil Eng'g. Toledo, Civil Eng'g. Forrest, General, L. and A. General, L. and A. Mattoon, Springfield, Business, L and A. Chicago, Chemical Eng'g. Port Washington, O.,

Household Science, S. General, L. and A. Lena. Savanna, Electrical Eng'g. Rock Bridge, General, L. and A. Richmond, Ky., Civil Eng'g. Morning Sun, Ia., Civil Eng'g. Bushnell. General, L. and A. Wyoming, Agriculture. General, L. and A. Wyoming, Washington, Ia., General, L. and A.

Civil Eng'g.

Hume.

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<sup>\*</sup>Deceased.

Rood, John Harold,

Rosencrans, Fred Barnum, Rowden, Lottie Della, Rowe, Edwina Walker,

Rowley, Allen Kirke,
Ruehe, Harrison August,
Ruff, Edgar John,
Rule, Eva Ara,
Rusk, Erva Merle,
Ruskamp, William Henry,
Russell, John Tyndall.
Russell, Lewis Melvin,
Russell, William Emmet,
Rutledge, George,
Rutledge, William Askins,
Sachsel, Otto Roscoe,
Sammons, William Edward,
Sampson, Lotta Anne Delana.
Sato, Toshio,

Sawtell, William Amos, Saxe, Albert Moore, Scanlan, Delia Lunette, Scanlan, Jack Addison, Schaefer, George Charles, Schell, Edward John, Schickedanz, Simon Aaron, Schill, Gertrude Bender, Schillo, Edwin William. Schmelzle, George Henry, Schoch, William George. Scholes, Walter Payson, Scholnitzky, Isidore Morris, Schrader, Arthur Charles, Schulzke, Otto Fred. Schuster, George. Schwartz, Lloyd, Scott, Frances Marie. Scott, Norman Bruce, Searle, John Clinton,

Terre Haute, Ind.,

Business, L. and A. Waukegan, Civil Eng'g. Cuba, General, L. and A. Owensboro, Ky.,

General, L. and A. Chicago, Railway Eng'g. Waukegan, Agriculture. Chemistry. Quincy. General, L. and A. Cairo, General, L. and A. Rantoul, Quincy, Civil Eng'g. Denver, Colo., Arch. Eng'g. Business, L. and A. Pana. Business, L. and A. Decatur, General Science. Menard, Evanston, Civil Eng'g. Chemistry. Chicago, Towanda, Pa., Arch. Eng'g. Petersburg, General, L. and A. Higasiku, Osaka, Japan,

Mechanical Eng'g. Agriculture. Chicago, Architecture. Aurora, General, L. and A. Chicago, Civil Eng'g. Chicago, Electrical Eng'g. Quincy, Keokuk, Ia., Civil Eng'g. Mechanical Eng'g. Chenoa, General, L. and A. Chicago, General, L. and A. Chicago, Business, L. and A. Freeport, Civil Eng'g. Tower Hill, Champaign, Electrical Eng'g. Civil Eng'g. Greenwood, Miss., Murphysboro, Mechanical Engig. Springfield, Chemistry. Mechanical Eng'g. Lincoln. Civil Eng'g. Golden, General L. and A. Jacksonville. Medical. Chicago, Genseco. General, L. and A.

Seebach, Marie, Seib, Eugene Charles, Sellards, John Armstrong, Sercombe, Rupert John. Sesler, Philip Ray, Seyl, Peter Walter, Seymour, Curtis T, Shapland, Cecil James, Shaw, Ben Bruce, Shaynin, Mitchell Henry, Sherman, Victor Louis, Shipley, Pearl Elnora, Shirk, Joseph Raymond, Shrader, Justin Winfred, Signor, Nellie Marie, Simmons, John William, Sinclair, John George, Sinclair, Thomas Almarin. Skinner, Richard Elijah, Skoog, Paul Leonard. Slavik, Edward Frank. Slosson, Robert Lyon, Smith, Alfred Hazel, Smith, Dwight Leod, Smith, Gertrude Cane. Smith, Glenn Calvin. Smith, Grace Lee, Smith, Mabel Clair,

Smith, Paul Ardell, Smith, Samuel LeRoy, Smoot, Harold Lyman, Snook, Vera Jessie, Snow, Charles Howard. Snow, Wilbur Chancey, Solfisburg, Christian Harrison, Souders, Ralph Henry, Specht, Arthur Leo, Speedie, William Warren, Spellerberg, Leo John, Spencer, Edwin Rollin, Spencer, Watson Orr,

Peru. General, L. and A. Electrical Eng'g. Belleville, Champaign, General, L. and A. Elgin, Civil Eng'g. Pontiac. General, L. and A. Chicago, Civil Eng'g. Champaign, Agriculture. Saunemin. Civil Eng'g. Canton, Railway Eng'g. General, L. and A. Oak Park, Chicago. Mechanical Eng'g. Petersburg. Music. Champaign, Business, L. and A. Mattoon. General, L. and A. Urbana, General, L. and A. Keithsburg, Civil Eng'g. Chicago, General, L. and A. Ashland, Agriculture. Champaign, Civil Eng'g. Springfield, Chemistry. Chemical Eng'g. Chicago, Park Ridge, Civil Eng'g. Keithsburg, General Science. Freeport, Electrical Eng'g. Evanston. General, L. and A. Cuba, General, L. and A. Anna. General, L. and A. Chicago.

Household Science, L. and A. Plainfield. Sparta, Petersburg, Ottawa, Bloomington, Sugar Grove, Aurora, Rock Island, Washington, Gibson City, Highland, Rushville, Catlin.

Mechanical Eng'g. Electrical Eng'g. General, L. and A. General, L. and A. Agriculture. Mechanical Eng'g. General, L. and A. Mechanical Eng'g. Electrical Eng'g. Electrical Eng'g. Chemistry. General, L. and A.

Chemical Eng'g.

Spengler, Lewis Wilmer, Sponsel. John Gray, Sponsler, John McClure, Sprague, Villa Mae,

Spray, Dorothy Gunn,

Staley, Anne Harwood,
Stalker, James Robinson,
Stanton, Albert Jackson,
Stedman, William Henry, Jr.,
Steinbreder, William John,
Steingard, Joseph Nathan,
Stephens, Robert Bruce,
Stephenson, Roger Addison,
Sterenberg, John Frederick.
Stewart, Edith Eliza,
Stewart, Homer Willis,
Stilz, Clara Louise,
Stinson, Lawrence Browning.

Stocker, Cornelius, Stocker, Lawrence Orville. Stolp, Ray Norton, Stone, Mabel Gertrude, Stout, Frank Lewis, Straight, Gladys Lee, Strauch, Bertha Henrietta,

Strawn, Evalyn, Stromquist, Walter Gottfried, Sudbrink, Roy Elliott, Sumay, Felix Jose, Sundeen, Ruby Marie, Swanberg, Florena Pearl,

Swannell, Horace Conrad, Swartout, Cornelius, Swartz, Nelle Leona,

Swern, Perry Weston, Swett, Leslie Wells, Roby, Civil Eng'g.
Chicago, Mechanical Eng'g.
Aledo, Mechanical Eng'g.
Lockport,

Household Science, L. and A. Arlington Heights,

General, L. and A. Champaign, General, L. and A. Terre Haute, Ind., Civil Eng'g. Pana, Civil Eng'g. Champaign, Business, L. and A. St. Louis, Mo., Mechanical Eng'g. Chicago, Electrical Eng'g. Champaign, Agriculture. Carlyle, General Science. Fulton, Agriculture. Urbana, General, L. and A. Princeton, Electrical Eng'g. Sublette, General, L. and A. Mt. Vernon, Ind.,

Business, L. and A.

Highland, Agriculture.

Pana, Electrical Eng'g.

Philadelphia, Pa., Civil Eng'g.

Mattoon, General, L. and A.

Glenarm, Agriculture.

Fonda, Ia., General, L. and A.

Chadwick,

Household Science, L. and A. Albion, General, L. and A. Lindsborg, Kan., Municipal Eng'g. Beardstown, General, L. and A. Buenos Ayres, Arg., Civil Eng'g. Moline, General, L. and A. Paxton,

Household Science, L. and A. Kankakee, Mechanical Eng'g. Reynolds, Mechanical Eng'g. Urbana,

Household Science, L. and A. Chicago, Architectural Eng'g. Blue Island, Mechanical Eng'g.

[1908-09

Symons, Thomas Augustas, Taniyama, Sadakichi, Tanner, Florence Mae,

Targett, Stanley Elmer, Tate, Harry Lawson, Taylor, Ashley Breckenridge, Taylor, Gertrude, Taylor, Raymond Arthur, Terrall, John Jay, Thatcher, George William, Thomas, John Dodson, Thomas, James Henry, Thompson, Frank Arthur, Thompson, Milton Winfield, Thrasher, Charles Orval, Thrasher, Harry Maxwell, Thurston, Helen Marie, Tietje, Ralph Earle, Tilton, George Francis, Tinen, John Victor, Tippitt, William Howard, Titcomb, Evelyn Baker, Tooker, Leroy B, Tracy, Glenn Kilmer, Trees, Charles Emmett, Trimble, Carleton Thompson, Tryon, Charles Leon, Tupper, Henry Andrew, Turk, Bella Selma, Turner, Arthur Lynn, Turner, Emery Adell, Turner, Ernest DeWitt, Turner, George Walker, Turner, Walter Van, Turnes, Samuel Jacob, Twist, Clarence Cicero, Twist, John Francis, Tyler, Charles Vernon, Tyler, E Lloyd, Ullman, Alvin Ellsworth, Valerio, Ricardo,

Mazon, Agriculture.
Okayama, Japan, Civil Eng'g.
Aurora,

Household Science, L. and A. Cohoes, N. Y., Chemistry. Electrical Eng'g. Vandalia, Municipal Eng'g. Alton. Aurora, Household Science, Agr. Burlington, Ia., Electrical Eng'g. Reinbeck, Ia., General Science. River Forest, Mechanical Eng'g. Chicago, General, L. and A. Lovejov. General, L. and A. Ft. Wayne, Ind., Electrical Eng'g. General Science. Ogden, Gilman, Electrical Eng'g. Architectural Eng'g. Pontiac Winnetka, Household Science, S. Urbana, General, L. and A. Chicago. Architectural Eng'g. General Science. Chicago, Elizabeth, Agriculture. General, L. and A. Harvard, General, L. and A. Harvard, Agriculture. Osco. Frankfort, Ind., Civil Eng'g. General, L. and A. Trimble, Woodstock, Civil Eng'g. General, L. and A. Kewanee. General, L. and A. Litchfield. Agriculture. Wenona, Agriculture. Wenona, General, L. and A. Wenona, Virginia, General, L. and A. Toledo, Ohio, Mechanical Eng'g. Civil Eng'g. Chicago, Rochester, Agriculture. Agriculture. Rochester. Civil Eng'g. Plano, Plano. Civil Eng'g. Mechanical Eng'g. Moline. Saltillo, Mexico, Mechanical Eng'g. Vance, Joseph Wampler, VanDervoort, Jameson, VanEtten, Claire Trumbo, VanSchoick, Elmer Holmes, VanZandt, Arnold Cyrus, Vear, Charles Edwin, Vernon, Willett Blayney, Viner, Charles Hastings, Vittum, Elden Faber, Vollentine, Lyman George, Voorhees, Lucien Whitman, Waddell, Mary Lucile,

Wakeley, Leslie Marion, Waldie, James Robert Rathie, Waldron, Harris Richard, Wallace, Frank Miller, Wallace, Helen Isabel, Wallace, William Arthur, Walton, Thomas William, Wanderer, Oscar William

Wangelin, Herman Grover, Ward, Elde Hewlitt, Ward, Frank Anthony, Ward, George Snyder, Ware, Willis Craig, Wascher, Frederick Martin

Willian Watkins, Evart Montgomery, Watson, Alice Erwin, Watson, William Sumner, Jr., Way, Clyde Lynn, Weaver, Carl Franklin, Webb, Charles Provine, Webber, Hugh E, Weber, Richard Bruno, Weeks, Charles Elmer, Weeks, Lyman S, Weeks, Robert Ellsworth, Weitzenfeld, David Henry, Welden, Edmund Amos,

Springfield, Civil Eng'g. Chicago. Civil Eng'g. Mendota, Electrical Eng'g. Bloomington, Civil Eng'g. Civil Eng'g. Champaign, Chicago, Business, L. and A. Chicago, Mechanical Eng'g. Morris. General, L. and A. Knoxville, Electrical Eng'g. Taylorville, General, L. and A. Blue Island, Agriculture. Princeton,

Household Science, Agr.

Harvard, Agriculture.

Chicago, Agriculture.

Oak Park, Architecture.

Chicago Heights, Ceramics.

Homer, Music.

Jackson, Ohio, Mechanical Eng'g.

Rice's Landing, Pa., Architecture.

Rudolph, Chicago, Civil Eng'g.
ver, Belleville, Electrical Eng'g.
Rantoul, Medical.
Sterling, Architectural Decoration.
Benton, Business, L. and A.
Chicago, Chemistry.

William, Champaign, Agriculture. Bloomington, Civil Eng'g. Mt. Vernon, General, L. and A. Electrical Eng'g. Ottawa, Chicago, Electrical Eng'g. Civil Eng'g. Canton, General, L. and A. E. St. Louis, Ludlow, Electrical Eng'g. Chicago, Civil Eng'g. Bloomington, Electrical Eng'g. Jackson, Mich., Mechanical Eng'g. Chicago. Electrical Eng'g. Business, L. and A. Chicago, Wheaton, Civil Eng'g. Wellman, Iva Dorrit,
Wellman, Orpha May,
Wells, Ralph Ray,
Wenholz, Walter William,
Wertz, Arthur Haymond,
Western, Lea Miron,
Wheeler, Arthur Wayne,
White, Alvin Chester,
White, Edna Edith,
White, Emily Mildred,

White, Fred Eugene,
White, Kingsley Barbour,
White, Lyde Evangeline,
Whitnall, Clarence Arthur,
Whittum, Fred Horace,
Whittum, Samuel Harrie,
Wilcox, George Edward,
Wiley, George Glenn,
Wiley, Joseph Paul,
Wilkins, John Floyd,
Wilkins, Raymond Harvey,
Williams, Robert Leslie,
Willis, Benjamin Chestnut,

Wilson, Grover C,
Wilson, Horace Smith,
Wilson, Nelle Mae,
Wilson, Ross B,
Wise, Earle DeWitt,
Wissing, Clement Bernard,

Withers, Llora,
Witt, Adaline Elizabeth,
Witte, Hulda Catherine,
Wolf, Luther Otterbein,
Wood, Margaret Crowell,
Woodford, Harriet Louise,
Woodin, Charles Kahlke,
Woodward, Homer Bement,
Wooley, Robert Maxwell,
Woolington, Leon Samuel,

Champaign, Music. Champaign, General, L. and A. General, L. and A. Wenona, Algonquin, Electrical Eng'g. Kankakee, Agriculture. Dundee, General Science. Bellflower, Civil Eng'g. Chicago. Civil Eng'g. Champaign, General, L. and A. St. Joseph, Mo.,

Household Science, S. Hamlet. Electrical Eng'g. Boise, Idaho, Civil Eng'g. Urbana. General, L. andA. Peoria, Mechanical Eng'g. Chemical Eng'g. Herscher, General, L. and A. Herscher, General Science. Minonk, Warren, Mechanical Eng'g. Business, L. and A. Sullivan, Agriculture. Summitville, Ind., Ceramics. Champaign, Springfield, General, L. and A. Crawfordsville, Ind.,

Business, L. and A.
Champaign,
Chicago,
Macomb,
Kankakee,
Champaign,
Vincennes, Ind.,
Business, L. and A.
Business, L. and A.
Business, L. and A.
Meletrical Eng'g.
Mechanical Eng'g.
Medical.

Mechanical Eng'g. General, L. and A. Lexington, General Science. Kane, General, L. and A. Pekin. Civil Eng'g. Keithsburg. Library, L. and A. Champaign, Buffalo, N. Y., General, L. and A. Mechanical Eng'g. Rock Island, Civil Eng'g. Maroa. Civil Eng'g. Chicago, Civil Eng'g. Champaign,

Woolson, Harry Orville, Wooters, Leland Magness, Worsham, Walter Boatman, Wright, Mary Eleanor, Wyeth, Elizabeth Anne, Wyeth, Walter Heald, Yapp, William Wodin, Yoder, Maurice Emanuel, Young, Atha Audley, Young, Benjamin Carey, Yowell, John B, Zearing, Louis Andrew, Zerbee, Leigh Francis,

Zetek, James, Zimmerman, Aaron Wilbur, Aurora, Electrical Eng'g. Carlinville, General, L. and A. Electrical Eng'g. Paris, Dwight, General, L. and A. Charleston, General, L. and A. Architectural Eng'g. Chicago, Champaign, Agriculture. Topeka, Ind., Agriculture. Farmer City, Music. Chicago, Architectural Eng'g. General Science. Paris, General, L. and A. Princeton, Bellefontaine, Ohio,

Railway Eng'g. Chicago, General Science. Mechanical Engig. Tiskilwa.

## **SPECIALS**

Abrams, Samuel, Acom, William Henry, Aguirre, Mathias, Ahlgrim, Fred Hector, Akester, Jessie Elvana, Alcott, Guy Fisher, Allyn, Orr, Ames, Benjamin Hazen, Anderson, Albert, Anderson, Grace May, Armstrong, George W, Bain, Mrs. Mary Wright, A.B.,

Baird, Roy Wilson, Baker, George Willard, Baker, Pearl Rawson, Baker, Ray Churchill, Ball, Jonas Hamilton, Barber, Luther Hall, Barker, George, Barnes, John Thomas, Barnhart, Mabel Olive, Barrett, Mrs. Anne Turner,

Champaign, Agriculture. Lake City. Agriculture. Coahuila, Mexico, Civil Eng'g. Michigan City, Ind., Architecture. Farina. Art and Design. Fairview, Agriculture. Modesto. Agriculture. Kaneville. Agriculture. Homer, Agriculture. Champaign, Music. Bondville, Agriculture.

(Univ. of Wis.), 1902, Champaign, General, L. and A. Agriculture. Morrison, Goodenough, Agriculture. Irving, Agriculture. River Forest. Agriculture. Toluca. Agriculture. Agriculture. Chicago, Agriculture. Bondville, Peoria, Agriculture. General. L. and A. Urbana, General, L. and A. Urbana,

Barrett, Claudia Mae, Barrett, Julia Gale,

Bassett, Clifton Herbert, Bean, Earl George, Benitz, William Agar, Beresford, Merle, Berthold, Lewis Ralph, Biggers, LeRoy, Black, Robert Overton, Black, Robert Quincy, Boggs, Mrs. Grace Lindley, Borden, Leslie Frank, Boughton, David Webster, Bowers, Joseph Richard, Bracker, Mabel, Braeuninger, Ella Christine, Brasfield, Bryant Lester, Breneman, Mrs. Harriet May, Brooks, Fannie Maria, Brooks, Zella, Brophy, Frank Joseph, Brougham, Maude Victoria,

Brown, Jesse Leroy, Bruggeman, August Ernst,

Buenger, William George, Bunch, Joseph Raymond, Burke, Ira Hanna, Burrill, Irene Elsa, Bush, Julia Florence, Callagan, Rilla May,

Cannon, Brenda Whittier,
Carlson, Charles Algot,
Cartwright, Charles Findlay,
Case, Flora Margaret,
Case, Lura Maud,
Cass, Elizabeth Henrietta,
Caveney, Frank Marion,
Cederberg, John Oscar,

Princeville, Household Science, S. Cincinnati, Ohio,

General, L. and A. LaSalle, Agriculture. Hampshire, Agriculture. Las Rosas, Agentina, Agriculture. Owensville, Ind., Music. Agriculture. Aurora, Agriculture. Richmond. Agriculture. Urbana, Urbana, Agriculture. Urbana, Art and Design, Lawrenceville, General, L. and A. Agriculture. Plainfield, Virginia, Agriculture. Hillsdale, Household Science, Agr. Champaign, General, L. and A. Agriculture. Eureka, Urbana, Music. General, L. and A. Saunemin. St. Anne, Art and Design. Chicago, Electrical Eng'g. Sault Ste. Marie, Mich.,

General, L. and A. Wyoming, Agriculture. Brake d. Lemgo, Germany,

Mechanical Eng'g.

Edwardsville, Agriculture.

McClure, Agriculture.

Urbana, Agriculture.

Urbana, Music.

Urbana, Household Science, Agr.

Sheridan,

Household Science, L. and A.

Milwaukee, Wis., Music.

Chicago, Mechanical Eng'g.

Bailey, Tenn., Civil Eng'g.

Dunlap, General, L. and A.

Alta, Household Science, Agr.

Chicago, General, L. and A.

Crescent City, Agriculture.

St. Paul, Minn., Arch. Decoration.

Challacombe, Harvey Edwin, Chandler, Sarah Preswick, Christie, Morrison, Clark, Mrs. Alice Broaddus,

Clark, Everett, Clark, Ray Wilson, Coffin, Lulu Linetta, Cogdal, May Christina, Conard, Harriett Zoe, Condrey, Chase Logan, Conklin, James Henry, Constant, Clarence R, Cooper, Mark Ament, Copeland, Ira Stafford, Corzine, Leslie Clay, Craig, David Wesley, Craig, George Herbert, Craig, Lewis Penwell, Crane, Robert Cail. Crane, Stanley Parker, Daehler, Alvin August, Daggett, John Birney, Dalbey, Will Edward, Davis, Clyde Wilfred, Davis, Thomas George, Depler, James Dean, Derrough, Blanche, Dick, Elma Jane, Dickenson, Robert William, Dolph, Arthur H, Donahue, William Joseph, Doyle, Herbert Frank, Drish, Frances. Dudley, Walter Hamilton, Dunlap, Samuel Draper, Durst, Charles Elmer, Eaton, Edward Francis, Eaton, Harry Lee, Edbrooke, Gertrude Elizabeth, Edwards, Frank, Edwards, George Grant,

Challacombe, Agriculture.
Pittsburg, Kan., General, L. and A.
Evanston, Agriculture.

B.S., 1891, Urbana, General, L. and A. Rushville. Electrical Eng'g. Clarence, Civil Eng'g. Music. Salem, General, L. and A. Chicago, Monticello. General, L. and A. Palestine, Agriculture. Rockton, Agriculture. Williamsville, Agriculture. Farmingdale, Agriculture. Chicago, Mechanical Eng'g. Assumption. Agriculture. Wilmington, Agriculture. Elwood, Agriculture, Shelbyville, Agriculture. Lomax. Agriculture. Milwaukee, Wis., Architecture. Chadwick, Electrical Eng'g. Chicago, Agriculture. Taylorville, Agriculture. Blackstone, Agriculture. DeSoto. Agriculture. Lewistown, Agriculture. Champaign, Music. Music. Philo, Paris, Agriculture. Electrical Eng'g. Fisher, Cullen, Agriculture. Agriculture. Sparland, Art and Design. Champaign, Evanston. Electrical Eng'g. Oak Park, Agriculture. Agriculture. Quincy. Agriculture. Warden. Agriculture. Elwood, Music. Oak Park, Maroa. Agriculture. McLeansboro, Agriculture.

Ehresman, William Roy, Eliason, Rolla Jasper, Eliason, Taylor William, Elliott, James Mansfield, Eminger, Evan Bowker, Emmerson, Ethel Mae, Esmond, Oakley Wright, Ewing, George Ewart, Fairbanks, Jennie, Farmer, Paul Melville, Feind, Frances Marguerite,

Flanders, Paul Aiken, Floyd, Homer Gabbert, Fombelle, Just Samuel, Forbes, Zephaniah Clark, Foreman, Alvin Claude, Forrest, Elizabeth, B.L.S., 1906, Chicago, Fraser, Mrs. Alice Eaton, Freeland, Chesley Barber, Galbraith, Alonzo Bowers, Gallion, Grace Margaret, Gallup, Harvey Wetmore, Garnett, Percie Ellen,

Garrett, Frank James, Gates, Neil Herbert, Gatzert, Nathan Eddy, Gebhart, Elmer Franklin, Gentry, William Sumner, Jr., Georg, Victor Emil, Gere, Hazel Harriet, Gilmore, Glenn Spear, Gingerich, Ralph Pretty, Ginocchio, Frank,

Girton, Thornton Martin, Glasgow, Grace,

Glasgow, Ruth,

Glenn, Grace,

Roberts, Agriculture. Zion City, Agriculture. Zion City. Agriculture. Agriculture. Chebanse. Gibson City, Agriculture. General, L. and A. Lincoln, Ottawa. Agriculture. Arcola. Agriculture. Mansfield, Music. Springfield, Electrical Eng'g.

B.L.S., 1907, Chicago Heights, Music. Glencoe, Agriculture. Decatur, Agriculture. Decatur. Agriculture. Pueblo, Colo., Chemistry. Pittsfield. Agriculture. General, L. and A. Champaign, Music. Dalton City, Agriculture. Railway Eng'g. Chicago. St. Joseph, Music. Agriculture. Pontiac, Plymouth,

Household Science, L. and A. Minonk. Agriculture. Terre Cotta, Ceramics. Chicago, Agriculture. Stonington, Agriculture. Frankfort, Ind., Art and Design. Springfield. Arch. Decoration. Urbana, Household Science, Agr. Agriculture. Aledo, Panola, Agriculture. Little Rock, Ark.,

Arch. Decoration. Agriculture. Paw Paw. Tennessee, Household Science, Agr.

Tennessee,

Household Science, Agr. Champaign. Music. Gloyd, Galen Van Rensselaer, Goldberg, Rose Alice, Gorham, Margaret Dresser, Goss, Mary Lucetta, Goulding, Mrs. Helen Lancaster

Grabbe, Florence Harriet, Grant, Roger Alpine, Green, Jay, Green, Roy Ezra, Gridley, Howard Mitchell, Griffin, Russell Smith, Gross, Charles Frederick, Growden, Arthur Franklin, Hall, Laura Belle, Hammer, Albert Benhard, Hana, Leo Gregory. Hand, Mabel Mary, Happer, James Harrison, Hardesty, Charles Milton. Harris, Charles, Hartshorn, Alfred Bernham, Hecox. Elizabeth Belle. Hedges, Guy Otis, Henderson, David Howard, Henricks, Harold Hopkins, \*Hickey, Joseph Edward, Hill, Ida Myrtle, A.B., 1905, Holmes, Oliver Wendell, Holmes, Thomas Hughes, Holtzman, Wilfred Davis, Homs, Eladio,

Hope, Herford, Horst, Anton Edward, Horton, Jay Lyman, Hoskins, Ezekiel Edward, Howard, Mary, Howell, Fred Washington, Hubbart, Edith Pauline, Huff. James Orton, Macomb, Architecture.
Chicago, Music.
Champaign, Art and Design.
Champaign. General, L. and A.

Music. Plummer. Urbana. Household Science, Agr. Philo, River Forest, Agriculture. Lincoln. Agriculture. Agriculture. Oakwood, Agriculture. Virginia, Fairfield. Agriculture. Agriculture. Olney, Carbondale, Agriculture. General, L. and A. La Moille, Scales Mound, Agriculture. Champaign, Medical. Champaign, Music. Farmingdale, Agriculture. Agriculture. Homer, Architectural Eng'g. Moweagua, Ottawa, General, L. and A. Sidney, Music. Agriculture. Colfax, Holcomb, Agriculture. Agriculture. Chicago, Stillman Valley, Agriculture. Champaign, Art and Design. Agriculture. Lena, Civil Eng'g. Lock Haven, Pa., Little Rock, Ark., Architecture. Barcelona, Spain,

General, L. and A.

New Brighton, Pa., Ceramics.

Rock Island, Mechanical Eng'g.

Elmira, N. Y., Art and Design.

Norris City, Agriculture.

Danville, Music.

Homer, Agriculture.

Monticello, General, L. and A.

Frederick, General, L. and A.

<sup>\*</sup>Deceased.

Huffaker, Wellington Birther, Hunt, Edenia, Hunt, Elmer Lee, Hutson, Seba Ford, Hyde, Rosa Kate, Immel, Raymond Frank, Ingham, James Donald, Insley, Charles Wilkins,

Irwin, Emory Quinton, Jackson, Chester Hull, Jacobson, Herluf Peter, Jenkins, George Erastus, Johnson, Adolph Julius, Johnson, Antonia.

Jones, Cletus, Jones, Ebon Clark. Jones, George Lawrence, Jones, Nellie Hannah. Jordan, Ralph, Jutton, Emma Reed, B.L.S., '99, Karmazin, John, Keefe, William Francis, Keeler, George Greene, Kennedy, Clayton Franklin, Kerley, Claude, Kincaid, Albert Rex. Kinzel, Frank Martin, Kiplinger, Lloyd Addison, Kipp, Karl Parker, Kirby, Mary Arletta, Kizer, Loren Parker. Koehler, Albert Benjamin. Krieger, Augustus Earl, Langan, John Joseph, Lange, Sophie, Laubmayer, Benjamin Leroy, Lear, George Bratten, Leonard, John Archibald,

Lewis, Thomas Jefferson,

New Berlin,
Urbana,
Henry,
Benton,
Champaign,
South Bend, Ind.,
Agriculture.
Music.
South Bend, Ind.,
Agriculture.
Agriculture.
Agriculture.
Agriculture.
Agriculture.

Agriculture.

Pleasant Plains, Agriculture.

Joy, Agriculture.

Camp Point, Agriculture.

Delavan, Agriculture.

Knoxville, Agriculture.

Chicago.

Chicago, Household Science, L. and A. Herrin, Architectural Eng'g. Bloomington, Agriculture. Barry, Agriculture. Milford, Music. Agriculture. Fairland. Music. Champaign, Champaign, Mechanical Eng'g. Civil Eng'g. Blossburg, Pa., Chicago, Agriculture. Elgin, Civil Eng'g. Timewell. Agriculture. Taylorville, Agriculture. Chicago, Civil Eng'g. Lena, General, L. and A. Mineral. Agriculture. Champaign, Music. Mechanical Eng'g. Hammond, Chatsworth, Agriculture. Agriculture. Stonington, Agriculture. Kankakee, Champaign, Music. Odin. Agriculture. Business, L. and A. Chicago, Lake Geneva, Wis.,

Business, L. and A. Peotone, Agriculture.

Music.

Lobdell, John Randolph, Lockwood, Clarence Monroe, Lundh, Oscar Andrew, McAdams, William Douglas, McCaskill, Kenneth Alexander, McClellan, John Hancock, Ph.D.,

(Harvard Univ.), 1906, Lexington, Ky., McCord, James Drish, McCray, James Daniel, McDougle, Charles, McMinds, Ira Frank, McNutt, Ray John, Madison, Lawrence Chester. Masley, Jacob Jay, Matsuyama, Motoyoshi, Matthews, Leo, Maxwell, Mabel, Maxwell, Robert Lincoln, Meharry, Paul Francis, Meisenhelter, Ray Webster, Mershon, Joseph Ingram, Miles, John W, Millar, William Harrison, Miller, Goldie Mae, Miller, Logan Charles, Millholland, Ernest, Miner, Paul Irving, Mitchel, Marietta, Mitchel, Ruth Lacie, Moberg, Cornelius Frederick, Mohr. Herman. Montgomery, Harriet Eleanor, Montigel, James Ralph, Moorehead. Frank Forest. Morrison, Homer Frederick, Jr., Ramsey, Morrow, Hugh D, Moss, Mary Frances, A.B., 1905, Urbana, Moss, Royal Ross, Murphey, Fay Blanche, Murphy, John Delbert, Murphy, William Emmet,

Murray, Marselle,

Carbondale,
Stonington,
Clinton,
Alton,
Taylorville,
Agriculture.
Agriculture.
Agriculture.

Medical. Vincennes, Ind., Agriculture. Earlville. Agriculture. Agriculture. Charleston. Urbana. Architectural Eng'g. Charleston. Agriculture. Agriculture. Quincy, Agriculture. Shermanville, Kyoto, Japan, Agriculture. Champaign, Mechanical Eng'g. Music. Lawrenceville. Arcola. Agriculture. Tolono, Agriculture. Agriculture. Rosemond, Mt. Carroll, General Science. Urbana. Agriculture. Agriculture. Shelbyville, Champaign, Music. Mattoon. Mechanical Eng'g. Marion, Ind., Agriculture. Adair. Agriculture. Champaign, Music. Champaign, Music. Cameron, Agriculture. Arch. Decoration. Chicago. Quincy, Household Science, Agr. Chicago. Architecture. Seibert, Colo., Architecture. Agriculture. Architecture. Indianapolis, Ind., Music. Business, L. and A. Morris. Music. Champaign, Agriculture. Odell, Odell, Agriculture.

Hoopeston,

Nation, Maggie Eloise,

Negley, Laurel Angle, Nelson, Floyd. Nicholson, James Calvin, Nightingale, Mrs. Minnie Louise, Urbana, Nordwall, Samuel Victor, Norfolk, Harold, Nourse, Fred Melvin, \*Oakes, William Bryson, Oldham, Clyde Carleton, O'Neal, John Russell, Orr, Robert Hall, Pallissard, Edward John, Jr., Parsons, Gwinthelean Estelle, Parsons, Margaret May, Peasley, John Hunt, Perkins, William Edwin.

Peterson, Harry Haines, \*Phelps, Louis Lyman, Phipps, Charles Rush, Poorman, Paul Wamsley, Porter, Albert Renfrew. Potter, John William, Pratt, Lucian Savillan, Quayle, Wilfred Russell, Rankin, William Jacob Royal, Rathjens, George William, Record, Charles Edward, Reed, Alice Elizabeth, Reed, Charles Franklin, Reed, Frank Walker, Reed, James Boone, Reed, Lois Antoinette.

Reeves, Charles Fowler, Rehtmeyer, Curtis Adolph, Reid, Ethel Irene, Chebanse,

Household Science, L. and A. Cuba. Agriculture. DeKalb, Agriculture. Urbana. General, L. and A. Music. St. Augustine. Agriculture. Agriculture. Charleston. Electrical Eng'g. Maywood, Agriculture. Laura. Urbana. Agriculture. Kankakee. Business, L. and A. Watsonville, Cal., Architecture. St. Anne. Agriculture. Chicago. Music. Homer. Music. Stronghurst. Agriculture. South Bend, Ind ..

Mechanical Eng'g. Kirkpatrick, Ind., Agriculture. Ladd. Agriculture. Charleston, Agriculture. Humboldt, Agriculture. Chicago. Agriculture. Champaign, Agriculture. Avon. Agriculture. Chicago, Agriculture. White Heath, Agriculture. St. Paul, Minn., Civil Eng'g. Farmington, Agriculture. Urbana, . General, L. and A. Sterling. Agriculture. Urbana, Music. Kirkwood. Agriculture.

Rochester, N. Y.,
General, L. and A.
Chicago, Mechanical Eng'g.
Chicago, Agriculture.
Great Falls, Mont.,

Business, L. and A.

<sup>\*</sup>Deceased.

D . D .	C'1	4 . 1.
Rein, Fritz,	Gilman,	Agriculture.
Renfrew, Clara Eva,	Urbana,	Music.
Rhodes, John Edwin, Jr.,	Chicago,	Agriculture.
Rice, Ernest Austin,	Bone Gap,	Agriculture.
Riegel, William Elias,	Galatia,	Agriculture.
Rigg, Clinton Benjamin,	Mt. Sterling,	Agriculture.
Riggs, Ray Vere,	Jerseyville,	Agriculture.
Robinson, Carroll Reuben,	Prentice,	Agriculture.
Robison, Glen Rupert,	Hamilton,	Agriculture.
Rohrer, Carl James,	Canton,	Agriculture.
Rolfe, Mary Annette, A.B., 1902.	Champaign,	Art and Design.
Rolfe, Susie Farley, A.B., '03,	Champaign,	Music.
Rose, Edward,	Mattoon,	Agriculture.
Rucker, Melvin Barnett,	Decatur,	Agriculture.
Rundles, Don Cameron,	Champaign,	Agriculture.
Rundles, Guy,	Huntertown, 1	nd.,
		General, L. and A.
Russell, Robert Avery,	LaPorte, Ind.,	Agriculture.
Rutan, Roscoe Chambers,	Chicago,	Agriculture.
Ryan, Joseph Patrick,	Chicago,	Chemistry.
Ryan, William E,	Delavan,	Agriculture.
Samson, Inez Rose,	Urbana,	Music.
Sandberg, Reuben Lawrence,	Chicago,	Civil Eng'g.
Savage, Tom Stribling,	Ashland,	Agriculture.
Saxton, Eva Iola,	Prescott, Was	
Schoemann, Jesse Henry,	Carmi,	Business, L. and A.
Schumacher, George Christopher	LaRue,	Agriculture.
Searcy, William Endimon,	Carlinville,	Agriculture.
Sequin, Edgar James,	St. Anne,	Agriculture.
Seibert, Erwin William,	Belleville.	Agriculture.
Selle, Emma M K.,	Chicago,	General, L. and A.
Shapland, George Thomas,	Saunemin,	Electrical Eng'g.
Shearer, Andrew Willis,	Henry,	Agriculture.
Shotts, Florence Dunlap,	Seymour,	Music.
Shupe, Chester Benton,	Paloma,	Agriculture.
Smith, Howard Allen,	Urbana,	Agriculture.
Smith, Helen Amelia,	Sidney,	Music.
Smith, Ira Wilder,	Kankakee,	Agriculture.
Smith, Lawrence,	Alexis,	Agriculture.
Smittkamp, Chester Arthur,	Paris,	Agriculture.
Snyder, Logan Abraham,	Kankakee.	Agriculture.
Souther, Frank Trowbridge,	Chicago,	Agriculture.
Doublet, Frank From Dridge,	Online go,	rigircuiture.

Stark, Grace Florence,
Stebbins, Joel, Ph.D., (Univ. of
(Cal.), 1903, Urbana,
Stephensen, Oddgier,
Sterchi, Anna M,
Stine, Clarence Jefferson,
Stookey, Sherman Columbus,
Strawn, Virginia,
Stroud, Earl Adams,
Sturgeon, Alfred Haig,
Swan, Grace Vernelle,
Swanson, Sven Gustav,
Swearingen, William Roy,
Swingle, Earl Houghton,

Albion,
Maroa,
LaGrang
Wayness
Potomac
Swearingen, William Roy,
Swingle, Earl Houghton,
Athens,

Taddey, Alfred Carl,

Spaid, Joseph Merl,

Stabler, James William,

Tanner, Harry W,
Tanquary, Elmer Shrader,
Taylor, Harriet Agnes,
Taylor, William Lincoln,
Teague, Clyston Mosse,
Teel, Charles Henry,
Teesdale, Hugh Thomas,
Terhune, Robert Edgar,
Tewes, Francis Xavier,
Thal, Otto Samuel,
Thomas, Melvin,
Thompson, Mrs. Beatrice Hazel,
Thomson, Mrs. Presson Waverly,

A B (Knar Call) 1900 Urbana

A.B., (Knox Coll.), 1902, Urbana,
Thoren, Joseph Nathaniel,
Throne, Edna Hazel,
Toben, John Harm,
Toomey, Mrs. Annie Belle,
Trotter, William John,
Unnewehr, George Louis,
Vanneman, Grace Sadonia,
Watkins, William Wynne,
Watson, George Edward,

A.B., (Knox Coll.), 1902, Urbana,
Chicago,
Forrest,

Heyworth, Civil Eng'g.
Neponset, Agriculture.
Thomson, General, L. and A.

Music. Urbana, Electrical Eng'g. Music. Olney, Agriculture. Edelstine, Belvidere. Agriculture. General, L. and A. Albion. Mechanical Eng'g. Maroa, LaGrange, Agriculture. Music. Waynesville, Agriculture. Potomac, Paris, Ky., Civil Eng'g. Agriculture. Athens. Milwaukee, Wis.,

Architectural Eng'g. Agriculture. Aurora, Music. Champaign, Osaka, Japan, General, L. and A. Lancaster, Wis., Agriculture. New York, N. Y., Agriculture. Rushville. Agriculture. Agriculture. Pontoosuc, Agriculture. Petersburg, St. Paul, Minn., Architecture. General, L. and A. Champaign, Charleston, Agriculture. Music. Greenup, General, L. and A.

Music. Civil Eng'g. Lockport, Chicago, Household Science, Agr. Melvin. Agriculture. Nashville, Tenn., Music. Coal City. Agriculture. New Point, Ind., Music. Urbana. Music. Chicago. Agriculture. Agriculture. Forrest,

Watts, Samuel Edward, Way, Hermien Clare, Wellman, Emma Catherine, Whitchurch, John Ezra, White, James Earl, Whiting, Morse Claude, Wiekert, Ricus, Willoughby, Thomas Fletcher, Wilson, Ben J. Wilson, Louis Dale, Winter, Robert Lowell, Wolfe, Gertrude Veronica, Womack, Peter Clay, Woodrow, Richard Lewis, Wright, George Ellory, Yoke, John Jonathan, Zillmer, Frank Gottfried, Zimmerman, Irla,

Chicago, Agriculture. Champaign, General, L. and A. Champaign, Music Salem. Agriculture. Morrisonville, Agriculture. Altona, Electrical Eng'g. Emden, Agriculture. Madison, Wis., Agriculture. Chicago, Civil Eng'g. Woodstock, Agriculture. Agriculture. Charleston, Streator, Household Science, Agr. Champaign, Agriculture. Green Valley. Agriculture. Architecture. Streator, Acton, Ind., Agriculture. Chicago, Mechanical Eng'g. Chicago, Art and Design.

## SUMMER SESSION

Ackemann, Henry Conrad, Adams, Edwin Bert, Agama, Benardo, Aguirre, Matias, Akers, Milton Kent, Allen, Frank Phoenix, Allison, Lorena Adella, Almy, Lloyd Huber, Alsbury, Mary Elizabeth, Anthony, Charles Henry, Apostol, Silverio, Applegate, Annie Mary, Archibald, Charity, Archibald, Myrtle Rebecca, Argüelles, Angel Severo, Averill, William Armitage, A.B., (Univ. of Chicago), 1902, Bach, Irwin Woodward,

Baird, Mrs. Bertha Salsich, Ballard, Sanford Elmer, Barnes, Hubert Otis,

Elgin. Steger. Tarlac, P. I.

Manclova, Coahuila, Mex.

Homer. New Windsor. Chicago. Sterling. Maroa. Greenville.

Iba Zambales, P. I.

Atlanta. Freeburg. Freeburg. Batangas, P. I.

Champaign. Urbana. Cincinnati, O. Merissa. Springfield.

Barnhart, Edna Pearl, Barnhart, Miles Goodwin, Barrett, Claudia Mae, Barto, Phillip Stephen, Barton, Raymond Leonard, Bashen, George Bergen, Bassett, Herbert B.S., 1902, Bauer, Frederick Charles, Baum, Mark Winchester, Beck, Frederick, Beecher, Howard Benjamin, Benefiel, Eva Marion, Benkert, Ambrose William, Bennett, Stella, B.L.S., 1903, Bentz, George William, Berolzheimer, Teresa Ruth, Bernreuter, Walter, Bevis, Albon, Biggs, Elias Dutten, Blair, Josephine Lyons, Bland, Rose, Booth, Archie Anderson, Booth, Walter Stewart, Booz, Archie Charles, Boren, Welzie E, Bost, Ernest Leslie, Bowlin, William Roy, Bowyer, Lewis Herbert, Bracker, Emil Mark Diedrich, Braucher, Herbert Hill, B.S., 1894, Breining, Wilhelmine Anna, Brewster, Walter Herbert, Brothers, Clark Arthur, Brougham, Maude Victoria, Brown, Edward Frederick, Brown, Frank Earl, Buck, Leonard, Buellesfield, Henry, A.B., 1906, Buenger, Louis, Buerkin, Edwin George Charles, Burgener, Claude Emanuel, Burt, John Little,

Urbana, Flanagan. Princeville. Momence. Worthington, Ind. Bowen. Yorkville. Blue Mound. Champaign. Harvey. Peoria. Mattoon. Marion. Belvidere. Chicago. Chicago Heights. Mt. Olive. Urbana. W. Lebanon, Ind. Piper City. Normal. Camb Point. Mt. Carmel. Roseville. Haubstadt, Ind. Greenville. Princeville. Bement. Hillsdale. Lincoln. Peru. Bradley. Hampshire. Sault Ste. Marie, Mich. Chicago. Chicago. Vermont. LaSalle. Edwardsville. Quincy. Moweaqua. Chicago.

Busey, Carolyn Elizabeth, Busey, Marietta Ruth, A.B., (Vassar Coll.), 1899, Bushnell, Ethel May, Butler, Beatrice Martindale, Butler, Charles Corydon, Butler, Mrs. Ruby Jane, Butzer, Clarence David, Calvert, Cecil Kirk, Campbell, James S, Campbell, Ralph Lee, Campbell, Winifred Thompson, Canty, Viola Gertrude, Carpenter, Ethel Elizabeth, Carpenter, Lewis Moffit, Case, Flora Margaret, Cass, Sherman, Center, Orlo Dorr, B.S., 1905, Chamberlain, Lucius Orville, Chase, Lottridge Eaton, Chester, Ann, Clark, John M, Clark, Vinton Albert, M.S., (Univ. of (Vt.), 1904, Clinite, Raymond Grover, Collins, Edra Louise, Condit, Charles, Condit, Roy Willoughby, Conley, Charles Clarence, Connard, May, Cook, Sylvester Irving, Copeland, Harry Atwood, Coronel, Peter Larate,

Cox, Loyd Franklin, Cox, Nellie Theresa,

Craig, John Henry, Crain, Mrs. Mary,

Cristy, Harold E,

1901,

Craig, George Herbert,

Crawford, Mayme Blair,

Crossland, George Marshall, A.B.,

Urbana. Urbana. Urbana. Urbana. Raritan. Princeville. Hillsdale. Champaign. Marion. Peoria. Albion. Chicago. Danville. Peoria. Dunlap. Cerro Gordo. Champaign. Champaign. Leroy. Hartsburg. Pittsfield. Champaign.

Cherry Valley. Urbana. St. Joseph. Urbana. Rockford. Decatur. Rantoul. Abingdon. Washington, D. C. New Burnside. Urbana. Elwood. Lewistown. Urbana. Urbana. St. Joe, Ark.

Sheldon.

Hagonoy, Bulacan, P. I.

Cruz, Adrino Talbos, Dague, Bess, Dallam, Clara Hill, Datu, Mauro M,

David, Samuel Garnett, Davis, Marietta Syrl, Davis, Wilmer Esla, Davison, Margaret, Deal, Hiram Linus, Dean, Jessie Luella, Demmer, John Edward, Denning, Bertha, DeVoss, Frank, Jr., Dewey, Louise Sarah, M.S., 1899, Diaz, Waldemar Ramon, Dicke, Otto Arthur, Dobbins, John Alexander, Dodson, Frank, Dodson, Mrs. Olive Myrtle, Dolan, William John, Donaldson, Elizabeth Frances, Drake, Pauline Hortense, Eagelston, Elizabeth, E, Earnest, William Watson, Eccles, William Edmund, Edmunds, Henry Hugh, Eggleston, Adeline, Eggleston, Hariet Myrtle, Ehrgott, Grover Cleveland, Ekblaw, Walter Elmer, Elicano, Victoriano, Endsley, Frederick LeRoy, Engelhart, John Hanley August, English, Edith Mary, Eno, Sarah Wooster, Eoff, Earl, Ernest, Thomas Reuben, A.B., 1907, Espinosa, Miguel Elenes, Espriu, Rafael, Ewing, Harriet Grace, Fast, Emmett Emerson,

Danville. Warsaw. S. Fernando, Pampanga, Onarga. Straight Creek, Kan. Urbana. Monticello. Taylorville. Carthage. Pinckneyville. Normal. Cameron. Urbana. Ranchos, Buenos Ayres. St. Louis. Mo. Pleasant Plains. Armstrong. Armstrong. Urbana. Urbana. Urbana. Bradford. Bushnell, Staunton. Clinton. Urbana. Urbana. Quincy. Rantoul. Masinlac, Zambales, P. I. Milford. Champaign. Carlock. Charlotte, Vt. Greenup. Swanwick.

Topia, Mexico.

St. Joseph, Mo. Princeville.

Mexico City, Mexico.

Ferguson, Jean May, Ferris, Elizabeth, Finn, Samuel Norris, Fletcher, Mabel Elizabeth, Forbes, Ethel Clara Schumann, A.B., 1003. Formoso, Arsenio Sebastian,

Foster, Joseph Kyle, Fox, Gertrude Grace, Froelich, John Daniel William, Furrow, Elmer Otis, Gallaher, Thomas Andrew, Garlough, Carlton D, A.M., (Hillsdale Coll.), 1900, Garza, Juan Jesus, Gates, Orus Ethan, Gault, Cora Lola, Genther, Otto Carl, Gibbs, Clark Lee, Gilmore, Mrs. Emma, Girhard, Charles Edward, Glenn, John Albert, Goff, Mary Emma, A.B., 1902, Goodenough, Arthur Sherman, Graham, Charles Wallace, Grandy, Charles William, Grannis, Frank Cravens, Green, Bessie Rose, A.B., 1907, Green, Georgana, Greene, Birdie Wilmah, Greene, James Henry, Griffin, Dwight, Griffith, Mabel Frances, Griffith, Thomas Leo, Grimm, Emma Minnie, Grosh, Elizabeth Phyllis, Groves, Mabel, Guerrero, Angel Cuesta,

Gutierrez, Perpetuo Dionisio,

Pekin. Homer. Carter. Decatur.

Urbana. Santa Maria, Ilocos, Sur, P. I. Mt. Carroll. Danville. Chicago. Potomac. Homer.

Brookston, Ind. Saltillo, Mexico. Tuscola. Grass Creek, Ind. Mokena. Ewing. Hillsboro. Newton. Monmouth. Rantoul. Urbana. Springfield. Gurnee. Urbana. Ivesdale. Paris. Tallula. Dubuque, Ia. Clinton. Rankin. Windsor. Quincy. Loraine. Momence. Havag, Ilocos, Norte,

P. I. Flondablanca, Pamp-

anga, P. I.

Gwin, Thomas Day, Gwinn, Avis, Haddock, Frank Dickinson, A.B., (Olivet Coll.), 1900, Hagen, Henry Hiram, Haines, Arthur Carleton, Hall, Edward Leverich, Hall, Ward Everett, Hana, Leo Gregory, Hanson, Herman Ludwig, Harbert, Hazel Gertrude, Harmon, Charles Frederic, Harnist, Carl Wilhelm, Harris, Charles, Harrison, Bruce Magill, Harshbarger, Lulu Belle, Hart, John Franklin, Harwood, Frank David, Hatch, Edith Hodgen, Hatcher, Charles Kenneth, Hauser, Albert, Hawbaker, Eliphalet Henry, Hawkes, William, Haynes, George Edwin, Hedgcock, William Everett, Heislar, Clarence Schuch, Helfrich, Ida Josephine, Hellmann, Carl August, B.S., 1906, Hemphill, Joseph Clyde, Henderson, Alice Apalona, Henderson, Elmer J, Henderson, Wilson Hogan, Henicksman, Idah T, Henning, August Edward, Henry, Theodore Spafford, Hesse, Lawrence Jere, Hesselbaum, Caroline Elizabeth, Highfill, Inez Feltz, Hill, Carrie Marsh, Hill, Fanny Wilder, Hill, Nathan Richard, Hoagland, Henry Elmer,

Clyde. Urbana.

Champaign. Steward. Chicago. Danville. Monmouth. Champaign. Paxton. Hoobeston. Walsh. Edwardsville. Moweagua. Ottawa, Kan. Galesburg. Quincy. Flora. Chambaign. Quincy. Mexico City. Ames, Ia. Minonk. Siloam Springs, Ark. Plymouth. Champaign. Carthage. Homer. Paris. Galesburg. Leland. Springfield. Dana. Watseka. Abingdon. Evanston. Aurora. Urbana. Chicago. Champaign. Champaign. Prairie City.

Hobbs, Horace Gaylord, Hoff, Lucy Virginia, Holt, Sidney Viel, Hough, Estella Daisy, Howard, Hester Rachael, Howe, Mary, Howell, Ethel English, Hubbart, Oliver Sherman, Huff, James Orton, Huffman, Eva Ellen, Hughey, Leta, Hull, Walker Francis, Hummel, Adam Albert, B.S., 1907, Hummel, William Grandville, B.S., 1907, Hunsaker, Andrew Franklin, Hunt, Agnes, Hunter, Anne S., Hutchinson, Ethel, Hutson, Seba Ford, Hutson, Stella Evangeline, Inness, Dorothy May, Jacobsen, Eda Augusta, James, Helen Dickson, James, Herman Gerlach, A.B., 1906, James, McNeal Cole, Jensen, George Leonard, Johnson, Ananias Parnell, Johnson, Roy Grant, Johnston, Elizabeth Jane, Jones, Ella Frances, Jones, John Lloyd, Jones, Walter Raymond, Jordan, Oscar Joseph, Kautz, Will Waddell, Kealey, Phillip Joseph, Kell, Sherman Little, Kelley, Grace Osgood, B.L.S., 1903,

Kennan, Charles Marshall,

Kessler, Harvey Lamech,

Keough, Emmett,

Kerker, Verna,

Pontiac.
Chicago Heights.
Oneida.
Belleville.
Villa Grove.
Chicago.
Arcola.
Monticello.
Frederick.
Charleston.
Decatur.
Martinsville.
Urbana.

Urbana. Cobden. Ridott. Rockford. Urbana. Benton. Benton. Galesburg. Urbana. Urbana. Urbana. Ancona. Chicago. Rantoul. Decatur. Illiopolis. Fairbury. Bradford. Redmon. Chicago. Moweaqua. Chicago. Kell. Muskegon, Mich. Maysville, Ky. Bath. Urbana. Chatsworth.

Kessler, Minnie Fryar, Keys, Louesa, Kibby, Sarah Elvira, Kiger, Oscar Newton, Kile, Katherine Louise, Kimble, Tone Theodore, Kindig, Pearl, Kingsbury, Howard Baker, Kingsbury, Mrs. Stella Edith, Kinzel, Frank Martin, Kirk, Donald Dee, Kirk, Elizabeth, Kirk, Josephine, Kirk, James Thornton, Kissinger, Gladys Lillian, Kizer, Loren Parker, Klewer, Arthur Leonard, Klotz, Vera Hall, Koch, Flora Maria, Krueger, Valeria Wilhelmina, Lagniton, Isabelo, Larracas, Fidel Videl, Larson, Martha Serena, Lawless, Joseph Conrad, Lawless, Julia Anna, Leach, Robert Whittaker, Lebegue, Julius Victor, Licup, Roman, Liggett, Frederick Manley, Lillard, Paul, Littler, Nellie M, Littler, Sherman Henry, Lockett, Lela, Lodge, Fred Sterling, Logan, Grace Belle, Long, Joseph Ayres, Lowry, Sarah Edith, Luckhauft, Fannie May, Lully, Rose L, Lyle, Albert Francis, Lynch, Ralph Atkinson, Mabin, Isabel,

Chatsworth. Normal. Bertland, Colo. Mansfield. Mason City. Kaneville. Secor. Gardner. Crystal Lake. Mattoon. Carbondale. Decatur. Decatur. Neponset. Bradford. Hammond. Chicago. Peoria. Jacksonville. Nauvoo. E. Lopez, Jaro, Iloilo. Boac, Marinduque, P. I. Morris. Bowen. Paloma. Rogers Park, Chicago. Oglesby. Angeles, P. I. Hamburg, Ia. Bloomington. Danville. Potomac. Clinton. Monticello. Edinburg. Amboy. Upper Alton. Marshall. Louisville, Ky. Arcola. Peoria. Danville.

McBee, Rose, McClenehan, William Thompson, McClurg, Lola DeWitt, McCord, Ralph Nichols, McCoy, Mary, McDaniel, Fannie, McDaniel, Lillie, McDonald, Alice Birdie, McDowell, Samuel Kline, McElvaine, Edith, McGrew, Mrs. Hattie Marston, McGrew, Leroy, McKean, Leonard Albert, McKinney, Henry Theodore, McManus, James Bernard. Maher, Lillian Elizabeth, Majumdar, Santosh Chandra, Mamer. Marv. Mansell, Lyman Beecher, Mansell, Mrs. Lyman Beecher, Mansfield, Warren Moore, Marsden, Roger Dearborn, Marsh, Mabel, Marshall, Bernice Henrietta, Marshall, Elsie Estelle, Martin, Luta, Martin, Oscar Ross, Martin, Thomas Adams, Martinez, Rufus Jallorina, Matheny, Arthur Rolla, Mathis, Victor Alvin, May, Anna Estelle, Meeks, Ida Vernicia, Meeks, Mrs. Frances Pearson, Merrill, Amos Newlove, B.S., (Agri. Coll. of Utah), 1896, Miller, Clarence Bonnell, Miller, Roscoe Barrickman, Millican, Harold Alexander, (Greenville Coll.), 1906. Minor, William, Misener, Lena Esther,

Sidnev. Monmouth. Urbana. Bloomington. Urbana. Champaign. Champaign. Charleston. LeRov. Bushnell. Hoopeston. Altoona. Woodson. Herrin. LaSalle. Champaign. Bolepur, Bengal, India. Odell. Farmington. Farmington. Woodhull. St. Charles. Kincaid, Kan. Assumption. Abingdon. Oakland. Granite City. Commercial Point. O. Iloilo, Panay, P. I. Elizabethtown. Champaign. Chrisman. Danville. Danville.

Logan, Utah. Boswell, Ind. Jeffersonville.

Spring Arbor, Mich. Mt. Vernon. Monmouth. Moeller, Helen Susan, Montooth, Charles Stuart, A.B., 1905, Moore, Ellsworth, Moore, Genevieve, Moore, James Gregory, Moore, Nellie Anna, Morris, Minnie E, Morrow, Jessie Eleaine, B.S., (Okla. Agr'l. and Mech. Coll.), 1903, Mull, Mrs. Beth Warner, Mullen, Cyril J, Nash, Charles Anson, Newcomb, Jessie Ruth, Nichol, Marion, Nicholsen, Margaret, Nicholson, James Calvin, Niles, Ella Gardiner, Nuckolls, Mary Elizabeth, Nuttall, John Tilden, Oathout, Mabel Edna, O'Byrne, Katie Jeannette, Olmsted, George Channey, Orgill, Sabina Ruth, Orosa, Vicente, Orr, Robert Hall, Orr, Mrs. Robert Hall, Palmer, George Merit, Palomares, Rudolph Siantigo, Patdu, Ildefonso, Paul, Mary Josephine, Pemberton, Bessie Belle, Penter, Eli Everett, Perez, Carlos Santiago, Perkins, Reba, Perrin, Harry Ambrose, Persinger, Elizabeth, Pettit, George Marion, Pippit, Aden G, Plunkett, Ortha Logan, Postlewait, Harriet Leotine, Powers, Mark Elmer, Powers, Michael,

Waterloo.
Toulon.
Augusta.
Urbana.
Quincy.
Pittsfield.
Carlyle.

Stillwater, Okla. Emporia, Kan. Buenos Ayres, Arg. Elizabeth. Champaign. Urbana. Gibson City. Litchfield. Tuscola. Urbana. Paxton. Cissna Park. Champaign. Chattanooga, Tenn. Jeanette, Pa. Bauan, Batangas, P. I. Watsonville, Cal. Watsonville, Cal. Milaca, Minn. Mexico City, Mexico. Manila, P. I. Jerseyville. Galatia. Champaign. Saltillo, Mexico. Champaign. Pawnee. Bushnell. Peshtigo, Wis. Champaign. Palestine. Philo. Champaign. Mackinaw.

Pugh, Ada Roberta, Raibourne, James Edward, Ramoso, Armesto, Ramsey, Carrie, Ray, Arthur E, Reed, Alice, Reeder, John Corwin, Reeves, Harry Payne, Renfrew, Carlos Dickson, Retz, Rosalie Mary, Richardson, Ross, Ricketts, Clara Agnes, Rivera, Jose, Jr., Rivera, Luis, Robbins, Frank Anson, Roberts, Kathleen Alice, Rohrer, Minnie Genevieve. Romig, Frank G, Rose, Webster Barclay, Rose, Wilber Wilford, Roth, Jay Frederick, Rourke, Ellen Mary, Rudin, Oliver Wendell, Rundles, Don Cameron, Runkel, Homer, Rutherford, Cecil Ebert, Sandifur, Claude Williamson, A.B., (Indiana Univ.), 1906, Sanvictores, Jose Gorgonio, Sargent, Agnes Lucy, Sato, Toshio, Schmidt, Henry Galen. Scholz, Hannah May, Scott, John Lee, Seeley, Esther Beulah, Seiler, Justin Frank, Shackell, Bessie Estelle, Shannon, Agnes Nancy, Shelton, Francis Ronald, Sheridan, Julian Marian, Sheriff, Ralph Edwin,

Shoop, Adeline Ada,

Champaign. Champaign. San Isidro, P. I. Danville. Rockford. Urbana. Hoopeston. Carmi. Urbana. Ottawa. Toledo. Champaign. Paysanhan, Laguna, P. I. Paysanhan, Laguna, P. I. Orient, S. Dak. Champaign. Somonauk. Coffeyville, Kan. Gays. Windsor. Henry. Springfield. Trinidad, B. W. I. Ft. Wayne, Ind. Greenub. Girard.

Ransom.
Pasig Rigal, P. I.
Mathuen, Mass.
Higasiku, Osaka, Japan.
Belleville.
Lake Zurich.
Springfield.
Normal.
Washington, D. C.
Urbana.
Freeport.
Grayville.
Chicago.
Reynolds.
Abingdon.

Shortridge, William Franklin, Sick, Elizabeth Kathryn, Sim, Keturah, Elizabeth, B.L., 1884, Simmons, Jessie Josephine, Simms, Fred Shepard, Simpson, Frank, Simpson, Orman Manard, Sinclair, Clara, Sinnett, Thomas Patrick, Sinnock, Pomeroy, Slaymaker, Charles Monroe, Smith, Irwin Webster, Smith, Leslie Alden, Smith, Marion, Smith, Paul McCorkle, Smith, Rose, Smith, Sylvia Edna, Snider, Earl Quinter, A.B., 1906, Sopp, Louise Katherine, Sparks, Mrs. Myrtle Eva, A.M., 1890, Spencer, Charles Blakely, Spencer, Edwin Rollin, Stedman, Jeanette, Stice, Henry Sylvester, Stifler, William Warren, A.B. (Shurtleff Coll.), 1902, Stipp, Daniel Webster Voorhees, Stolty, Jennie, Stone, Edison Harris, Stone, Jessie, Strehlow, Cornelia Emma, A.B., 1903, Strowd, Earl Adams, Strobridge, Thomas Ralph, Sumay, Felix Jose, Sumay, Oscar Jose, Summers, Mrs. Mary, Sundt, Jaseph Marvin, Swett, William Claude, Swezey, Anne Davies, B.L.S., 1903, Swift, Elizabeth Andrews, Swing, Lillian May,

Swisher, Jacob Armstrong,

Dearborn, Mo. Geneva. Urbana. Carthage. Traverse City, Mich. Pana. Williamsburg, Ky. Ashland. Crescent City. Chicago. Albany. Urbana. Champaign. Danville. Normal. Gibson City. Midland City. Cerro Gordo. Belleville. Ottawa. Champaign. Rushville. Champaign. Litchfield.

Upper Alton. Danville. Champaign. Quincy. Pekin. Shermerville. Maroa. Rockford. Chascomus, Argentina. Chascomus, Argentina. Homer. E. Las Vegas, N. Mex. Almora. Urbana. Champaign. Mason City. Wellington.

Tagore, Rathindra Nath, Tarrant, Floyd Hillabrant, Taylor, Alice, Taylor, Elsie Mae, A.B., 1904, Taylor, George Alexander, Taylor, Gouverneur Warren, Taylor, Margaret, Taylor, Roy Elmer, Taylor, Stanley George, Teague, Clyston Mosse, Terrill, Edward Dillon, Thal, Otto Samuel, Thomas, Edgar Conrad, Thompson, Charles Manfred, Thompson, Francis, Thompson, George Brooks, Thompson, Milton Winfield, Thrasher, Marvin Allen, Thurber, Alberta Maud, Tilton, Nellie E, Tilton, Olive Sophia, Toland, Jessie May, Tower, Willis Eugene, B.S., 1894, Trainor, Roscoe John Chauncey, Triebner, Marie Louise, Tregellas, Ida, Trimble, Clara Eugenia, A.B., 1904. Truscott, Laura M, Tucker, Bert Floyd, Tucker, William Wallace, Tull, Allison Lee, Urban, Harvey Benjamin, Valerio, Ricardo, Vanneman, Bessie E, Vanderverre, Jennie May, Verner, Arthur, Vaughan, Walter Marion, Van Winkle, Jennie Edith, Voorhees, Lucien Whitman, Voorhees, Ralph Miller, Voss, Mathilda C, Wacaser, Franklin Edgar,

Balpore, India, Champaign. Champaign. Champaign. St. Louis, Mo. Springfield. Chicago. Normal. Bloomington. New York, N. Y. Olive Branch, Miss. Champaign. Yorkville. Fairfield. Pinckneyville. Wheaton. Ogden. Kinmundy. Yorkville. Champaign. Danville. Urbana. Chana. Chicago. Chicago. Chicago. Fremont. Winchester. Boston, Mo. Kewanee. Farmer City. Gibson City. Saltillo, Mexico. Monticello. Urbana. Hoopeston. Odell. Avon. Blue Island. Champaign. Champaign. Forrest.

Waggener, William Eugene, Waggoner, Harry Dwight, Waits, Harmon Ebert, Waldorf, Mary, Washburn, Ludlow Joseph, Wasson, Mary Ellen, Watson, Ray Carl, Wead, Urith Lois, Weatherly, Mary Ellen, Weeks, Lyman S, Weinberg, Nina Mary, Wellman, Iva Dorrit, Wellman, Orphia May, Wenner, Florence Nightingale, Wenz, Carolyn Louise, West, Harry Grover, West, Milton Mitchell, West, William Allen, Wheatlake, Burton Cyrenious Job, Whitacre, Myrtle, White, Clarence Wilbur, White, Lena Lee, Whiton, Sylvia Frances, Whittenberg, Sarah Jane, Willard, Maud Harriett, Williams, Warren Stephen, Williamson, Charles Gurley, Williamson, Pearl, Wilson, Sue Louise, Wilson, Willabelle Bernice, Wimple, Maude Evangeline, Withers, Mrs. Bertha Haven, Woerner, Louise, Woll, Henry L, Wood, Beulah Miles, Wood, Iris Leota, Wood, Leonore Elsa, Woodbridge, Mary Emily, Woodford, Harriet Louise, Wright, John Byron, Wright, John Edward, Wright, William Price,

Fisher. Granite City. Petersburg. Peru. Evanston. Douglas. Champaign. Paris. Marshall. Jackson, Mich. Rushville. Champaign. Champaign. Edwardsville. Harvard. Mason City. Hoopeston. Omaha. . Greenville. Carbondale. Lacon. Warsaw. Champaign. Herrin. Belvidere. Champaign. Indianapolis, Ind. Champaign. Rosemond. Champaign, Elgin. Champaign. Meadows. Lovington. Petersburg. Urbana. Chrisman. Urbana. Buffalo, N. Y. Tallula. Herscher.

Libertyville.

Wu, Hei Lui,
Wyatt, Roscoe D,
Young, Rose,
Young, Thomas Earl,
Yunk, Nellie,
Zimmerman, Robert Paul,

Canton, China. Salem. Rushville. Lewistown. Sandoval. Peotone.

## COLLEGE OF LAW

## THIRD YEAR

Baird, John McCawley, Barloga, David Frederick, Barricklow, Joseph Pugh, Brown, Roy Hanlin, A.B., 1906, Child, Walter Ellsworth, Clark, Robert Burton, Dayton, Daniel V, Elliott, James Gladden, Feagans, Ray Frank, Finch, Earl De Vere, Fisher, Leon Ernest, Forman, Hamilton McClure, Hays, Herbert Augustus, Hilario, Juan Fernando, Johnson, Alfred Atwood, Lewis, Thomas Beach, Lybarger, Rufus Edward, Moran, Harry Cummings, Morrison, John Emery, Moynihan, Charles Joseph, Nebeker, Mark Edmond, Quinlan, Thomas William, Roth, Harold Denio, LL.B., (Univ. of Nebraska), 1905, Smith, Lowell Babcock, Thal, Hugo John, Warder, Walter Bain, A.B., 1906, Waugh, Robert William, Westervelt, Leverett Chase, White, Horace Clinton, Wood, Charles Harlington,

Olney. Pecatonica. Urbana. Sycamore. Farmingdale. Urbana. Paris. Pueblo, Colo. Peoria. Springfield. Springfield. E. St. Louis. Carbondale. Batangas, P. I. Danville. Fairbury. Avon. Canton. Danvers. White Hall. Clinton, Ind. Springfield.

Urbana. Sycamore. Champaign. Cairo. Belvidere. Shelbyville. Urbana. Petersburg.

### SECOND YEAR

Barth, Oris, Bauer, Ralph Stanley, A.M., (James Millikin Univ.), 1906, Beardsley, George Davis, Bookwalter, Robert R, Braden, Clarence Arthur, B.S., 1905, Burns, Robert Henry, Carrell, Charles Gashen, Cherry, Clifford Allen, Cunningham, Harrison Eugene, B.S., (Blackburn Coll.), 1905, Dewey, Chester Robert, Dietrich, Rufus Samuel, Evans, George Evan, Everhart, Leon Ulysses, Fillmore, James Gurney, Gill, Thomas Edward, Gray, Albert B, Herbstman, Julius Charles, A.B., (McKendree Coll.), 1901, Holton, Charles Ray, Hutchin, Claire Elwood, Irwin, William Wright, A.B., 1907, Johnson, Preston King, Johnston, James Milton, Jones, Alba Allen, Kelly, Louis Ralph, Little, Roger Frank, A.B., 1907, Long, George Durward, McLaughlin, Joseph Lyons, Maguire, William Chester, Mamer, Christopher, Jr., Mershon, Noble Carlisle, Messick, Joseph Breckenridge, Mills, Will Alonzo, Norman, Elisha Powell, Perring, Roy Dodge, Prather, Clytus Ilus, Pruitt, Glenn James, Pursifull, Joseph Henry, Railsback, Fred Harold,

Chrisman,

Champaign.
Kansas City, Mo.
Danville.
Sparta.
Murphysboro.
Greenup.
Oswego.

Jonesboro.
Morris.
Black River Falls, Wis.
E. St. Louis.
Urbana.
Woodstock.
Pecatonica.
Urbana.

Summerfield. Colchester. Decatur. Danville. Salem. Milan. Decatur. DuQuoin. Champaign. Fulton. Salem. Urbana. Chicago. Mt. Carroll. E. St. Louis. Salem. Tamalco. Champaign. Claremont. Urbana. Newton. Hopedale.

Rickard, Harry Lewis,
Rose, Earl Eli,
Schaefer, Paul Vincent,
Snider, Ferdinand Peter,
Stansbury, William Morris,
Sutherland, Leon Eugene,
Tice, Evert Homer,
Tygett, Roscoe,
Vanneman, Harry Walter,
Walker, Clyde Hildebrand,
Walker, George Richelieu,
Wham, Fred Louis,
Wilson, Frederick Alexander,
Wilson, Hugh Edward,
Wineman, Earl,

Oswego.
Olney.
Carlyle.
Charleston.
Joliet.
McNabb.
Greenview.
Carbondale.
Urbana.
St. Joseph.
St. Louis, Mo.
Cartter.
Gibson City.
Mason City.
Auburn.

### FIRST YEAR

Anderson, Alphon Lester, Anderson, Arthur F, Angerstein, Thomas Chester, Barnett, William Floyd, A.B., 1907, Benjamin, Fred Parker, Blaine, Charles Edmund, Brewer, Cecil La Verne, Brewer, Claude Harold, Briggs, Warren Edward, Buenger, Louis, Bush, Edward Morse, Butler, Beatrice Martindale, Christopher, Glenn Wilson, Dady, Robert Henry, Davis, Seymour Marquiss, Fasmer, Harry Bernard, Forester, Walter James, Frederick, Otto, Frederick, Roscoe Charles, Fridrichs, Augustus Henry, Fullerton, Charles Bushnell, Furrow, Elmer Otis, Greiner, Clarence Albin, Gum, Percy Eli, Harris, John Woodman,

Farmington. Farmington. Hillsboro. Barnett. Watseka. Avalon, Mo. Danville. Danville. Chicago. Edwardsville. Joliet. Evanston. Rock Falls. Gurney. Farmer City. Yorkville. Du Quoin. Sullivan. Sullivan. Waterloo. Ottawa. Potomac. Chicago. Petersburg. Champaign.

Hayes, Rollin Moulton, Hewlett, Maddra Jackson, Hoberg, Oscar William, Hoff, Spencer Theodore, Hoffman, Norman, Holton, Charles Ray, A.B., 1908, Howard, Frank Gibbens, Hubbart, Gurth Searle, Huff, Roger Grant, Hunter, Clyde Harvey, Iungerich, Harry Augustus, Johnson, Grant, Juul, Herbert Victor, Knight, Bradley Jay, Knoche, Rolland, Lane, Fletcher, Lathrop, Ralph Brown, Layden, John Emmett, Lewis, Byron Ray, A.B., 1907. Mabin, Gordon Henderson, Merritt, Guy Wilson, Morgan, Clarence William, Morris, Sidney McCagg, Palmer, John William, Parr, Clyde Harrison, Polk, John Luther, Jr., A.B., 1904, Powers, James Michael, Remick, Andrew Bernard. Rentfro, Percie Cobbs, Reynolds, John Joseph, Jr., Rockwell, Louis, Seger, Ralph Reynolds, Shipley, Henry Ellis, Smith, Milton Brassler, Starr, Norman Smith, Strauch, Bernard Andrew, Supple, Guy Justin, Swanson, Ernest, Talbot, Robert Maitland, Taylor, George Alexander, Thomson, Presson Waverly, Ullrich, Joseph Edward.

Rankin. Kewanee. Peru. Chicago Heights. Centralia. Colchester. Rantoul. Philo. Sullivan. Paxton. Rantoul. St. Louis, Mo. Chicago. Rochelle. Ridgeville. Urbana. Robinson. Cheneyville. Bridgeport. Danville. Buckley. Chicago. Oskaloosa, Ia. Neligh, Neb. Granite City. Champaign. Mackinaw. Trenton. Monticello. Rochelle. St. Charles. Morrison. Petersburg. Buda. Charleston. Chadwick. Danville. Paxton. Geneva. St. Louis, Mo. Urbana. Chebanse

Voss, Daniel Ernest,
Wagner, Gilbert Frederick John,
White, John Brown,
Williams, Henry Samuel,
Wilson, Edwin Leonard,
Wood, George Vernon,
Yott, Francis Danneil,

Freeport.
Princeton.
Effingham.
Onarga.
Joliet.
Rantoul.
Chicago.

### SPECIALS

Biggs, John David, Bland, Eugene, Busch, Louis Arthur, Clayton, John Herman, Coonrad, Arthur Vivian, Cunningham, Eugene Samuel, Davis, Joel Thomas, Davis, Robert Henry, Esselborn, William, Finn, Samuel Norris, Flood, John Peter, Gilbert, Charles Henry, Graham, Charles Wallace, Graham, John David, Gullett, Noah, Gustin, Alpheus, Harriss, Judson Emery, Hickman, Wilber Henry, Kost, John Clinton, Lane, Clyde Clarence, Leonard, William Hendricks, Lyman, Frank Decatur, McNutt, Thomas Murray, Mitchell, James Harry, Ramoso, Armesto, Replogle, Karl McClellan, Springer, Henry Strong, Swisher, Jacob Armstrong, Wahlheim, Frank John, Zimmerman, George Fulton Daniel,

Greenville. Findlay. Urbana. Johnston City. Marengo. Pekin. St. Joseph. Omaha, Ill. Pearl City. Cartter. Loami. Armstrong. Springfield. Illiopolis. Springfield. Cave-in-Rock. DuQuoin. Dudlev. Bushnell. Champaign. Wichita, Kas. Peoria. Humboldt. Russellville, Ark. San Isidro, P. I. Champaign. Las Vegas, N. Mex. Wellington. Geneseo. Mason City.

## COLLEGE OF MEDICINE

(College of Physicians and Surgeons, Chicago)

### SENIORS

Anthony, Robert Earnest, M.D., (Hahnemann Medical Coll.), 1907, Armstrong, Robert William, Arnold, Edward Max, Arnold, Samuel Edwin, Bates, Charles Richard, Beers, Bertram Robert, Berger, John Milton, A.B., 1903, Berry, Frederick Amon, Beuker, Bernard J., M.D., (Dearborn Medical Coll.), 1906, Billingslea, Martin Taylor, M.D., (Dearborn Medical Coll.), 1906, Biwer, Edward Theodore, Brandon, William Albert, Brinckerhoff, Elmer Ellsworth, Brown, Marcus Francis, B.A., (Beloit Coll.), 1899, M.D., (Dearborn Medical Coll.), 1907, Browning, Alonzo Alcesta, Buehler, Amil Albert, M.D., (Chicago Homeopathic Medical Coll.), 1904, Bullen, Clifford, M.D., (Bennett Medical Coll.), 1907, Bundy, Herman Winford, Camp, Foster Kendrick, M.D., (Dearborn Medical Coll.), 1907, Campbell, Roy, Cassady, George Washington, M.D., (Jenner Medical Coll.), 1900, Christopher, Harry V., Clark, Floyd Ferdinand, Clayton, Emanuel Harry, Clifton, Harry Ward, Cockrell, Thomas Littleton, Comee, William Clyde, Cook, Mary Leah,

Springfield.
Colfax, Wash.
Winnetka.
Chicago.
Camp Point.
West Ely, Quebec.
Dalton.
Pittsfield.

Lansing.

Chicago. Lincoln. Carbondale. Lockport.

Chicago. Ogden, Utah.

Spencer, Ia.

Rector, Ark. Lebanon, Ind.

Chicago.
Butte, Mont.

Chicago.
London, O.
Higbee, Mo.
Dixon.
Girard.
Princeton, Mo.
Seymour, Wis.
Maynesville, O.

Cook, Wilber Daniel, M.D., (Hahnemann Medical Coll.), 1900, Copeland, Hollestar Norman John, Cousineau, George Lewis, M.D., (Hahnemann Medical Coll.), 1905, Dennis, James Francis, Doane, George Henry, Doerann, August Frederick, M.D., (Illinois Medical Coll.), 1906, Dolan, John Edward, Doodokyau, Miss Yryrous Martin, Dornblaser, Thomas Franklin, Dowd, Richard Edward, Duff, Roden Robinson, Durkee, Charles Austin, Eckman, John Wesley, Jr., Essick, Raymond Brooke, Evans, John Henry, Fortin, William Henry, Freitag, Matilda Mina, Fugina, George Romeo, Gaudet, J. Alfred, Gearin, John Joseph, Gearon, Frank Emmett, Gerety, William Francis, Goembel, Emery Wells, Goldberger, Sollie Maxwell, Goldenburg, Michael, M.D., (Dearborn Medical Coll.), 1906, Gollobith, Edward Frank, Gordon, Glenn Godfrey, Graves, Philip Abernethy, M.D., (Dearborn Medical Coll.), 1904, Greer, Edwin James, Griffin, Francis Joseph, A.B., (All Hallow Coll., Salt Lake City, Utah), 1903, Grinde, George Allen, A.B., (Luther Coll.), 1903, Haake, John Arthur, Hartung, Adolph, Hayhurst, Emery Roe, A.B., 1903,

Chicago.
Chicago.

Chicago. Spickard, Mo. Aurora.

Chicago. Kankakee. Adana, Turkey in Asia. Chicago. Hastings, Neb. Chicago. Fairmount, N. Dak. Decatur. Murphysboro. Chicago. Chicago. Stanford. Fountain City, Wis. St. Joseph, N. B'nswick. Chicago. Chicago. Danville. Geneseo. East Chicago.

Chicago.
Baldwin, Ia.
Fair Play, Mo.

Oak Park.
Butte, Mont.

Chicago.

De Forest, Wis. Green, Kan. Chicago. Maywood.

Hedges, William Elias, A.B., (Princeton Coll.), 1898, M.D., (Chicago Homeopathic Coll.), Hennig, Ernst Louis, Herbert, Gavin Shearer, Hodsdon, Benjamin Franklin, M.D., (Bowdoin Medical Coll.), 1897, Howard, William James, Hughes, Allen Pettit, M.D., (Hahnemann Medical Coll.), 1907, Hunsaker, Curtis A., Huntley, Fred Mortimer, M.D., (Chicago Homeopathic Medical Coll.), Hutchison, Charles Wesley, Hosmon, Sarah Longworth, Imwall, Charles William, M.D., (Dearborn Medical Coll.), 1907, Ishmael, Oscar, Jamieson, Earl, M.D., (Chicago Homeopathic Coll.), 1905, Josselyn, Thyra Hildegarde, Joyce, Thomas Mathias, Kelly, Andrew Cyril, Klinch, John McClellan, D.V.S., (Ontario Coll.), 1895, M.D., (Barnes Medical Coll.), 1905, Knapp, John Luther, Kucera, Jerome Francis, M.D., (Dearborn Medical Coll.), 1907, Kulis, Jacob, M.D., (Physio-Medical Coll.), 1905, Lalor, Joseph Clinton, Larkin, William Raphael, Laue, Wilmet Paul, M.D., (Saginaw Medical Coll., Mich.), 1903, Lederer, Arthur, Lee, Alice Lulu, Lee, Newton Devoe, Lindstrom, Charles Oscar, Lipshulch, George Uriah, M.D., (Na-

tional Medical Coll.), 1903,

Chicago. Oshkosh, Wis. Keokuk, Ia.

Chicago.
Washington, D. C.

Spokane, Wash. Cobden.

Moulton, Mich. Dawson, Ia. Newberg, Ind.

Covington, Ky. Cassville, Wis.

Chicago. Detroit, Mich. Waterloo, Wis. Charles City, Ia.

Chicago. Franklin Furnace, O.

Chicago.

Chicago.
Oregon, Wis.
Chicago.

Gary, Ind.
Chicago.
Sioux Falls, S. Dak.
Chicago.
Cuyler.

Chicago.

1908-09] Lund, John M., Lunn, Jacob Osmond, McCabe, Bernard Vincent, McCormick, Roscoe C., B.S., 1901, McGrory, Joseph Jay, M.D., (Bennett Medical Coll.), 1896, Marion, Norman Edward, Martinson, Elsie Marie, M.D., (American Medical Missionary Coll.), 1900. Mayos, Charles Everett, Meade, Frank Sherwood, Jr., Mercer, Whedon Worley, Metcoff, Samuel, M.D., (Dearborn Medical Coll.), 1904, Meyer, Carl Albert, Mikkelson, Edward Michael, Miller, Harry Clifford, B.S., (Colo. Agri. Coll.), 1899, Moran, James Michael, Morrow, George William, Mosser, Robert, Ph.G., (Chicago Coll. of Pharmacy), 1891, Murphy, Elam Turner, A.B., (Wabash Coll.), 1899, A.M., (Univ. of Indianapolis), 1901, Nassman, Valentine, M.D., (Jenner Medical Coll.), 1907, Needham, Frank Stewart, M.D., (Dearborn Medical Coll.), 1905, Neer, Wilmer Young, Niemeyer, George Beekman, Noger, George Joseph, Norris, Samuel Brown, Nowack, Louis Henry, Nugent, Oscar Benton, M.D., (Dearborn Medical Coll.), 1907, Nussle, Albert Charles,

O'Connell, Sarah Conley,

Medical Coll.), 1906,

Ostrowski, Romuald Othelo,

Olkon, David Mortimer, D.D.S., (Northwestern Coll.), 1899, M.D., (Dearborn Chicago. Chicago. Helena, Mont. Chicago.

Chicago. Aurora.

Chicago. Council Grove, Kan. Perth Amboy, N. J. Peoria.

Chicago. Gilman. Chicago.

Hotchkiss, Colo. Manhattan. Versailles, Ind.

Chicago.

Crawfordsville, Ind.

Chicago.

Chicago. Chicago. Chicago. Chicago. Anna. Watertown, Wis.

Chicago. Chippewa Falls, Wis. Chicago.

Chicago. Chicago. Otrich, Grover Cleveland, Parks, Jennie Winship, Parrish, Homer Coulsen, Pearce, Warren Frederick, Phillips, Roland Hodge, B.S., (North American Coll., Rockford), 1901, M.D., (Bennett Medical Coll.), 1907, Potter, LeRoy Calkins, M.D., (Jenner Medical Coll.), 1907, Quigley, Timothy Charles, A.B., (St. Ignatius Coll.), 1904, Reese, Forrest Leslie, Rosenweig, George, Samuel, Dillard Estep, Samuels, Maurice Wolf, Schmid, William F., M.D., (Ensworth Medical Coll.), 1895, Schmidt, Charles Leopold, Schneider, Carl Oscar, Schroeder, John Cleveland, Schuessler, Augustus William, Sexton, Ira J., Shultz, Ione, Silverberg, Charles William, Simon, Louis J., Skwor, Charles James, Smejkal, Harry Jerome, Spear, John Frank, Spencer, George Joseph, Stawicki, John Paul, Steere, Harold Haines, M.D., (Herring Medical Coll.), 1903, Steiner, Louis Leo, Stocks, Arthur Lemuel, M.D., (Chicago Homeopathic Coll.), 1896, Strickland, George Wilson, B.A., (Fisk Univ., Nashville, Tenn.), 1901, M.D., (Illinois Medical Coll), 1905, Studebaker, John Franklin, AB., (Mc-Pherson Coll., Kansas), 1906, M.D.. (Hahnemann Medical Coll.), 1906, Summers, Martin Perigo,

Anna.
Cuba.
Creston, Wash.
Quincy.

Chicago.

Payson, Utah.

Chicago.
Paris.
Chicago.
Chicago.
Chicago.

St. Joseph, Md.
Chicago.
Chicago.
Half Day.
Joliet.
Chicago.
Delphi, Ind.
Woonsocket, R. I.
Fond du Lac, Wis.
Kellnersville, Wis.
Mason City.
Chicago.
Chicago.

Ch**i**cago. Loraine.

Quincy.

Chicago.

Summerfield, Kan. Des Moines, Ia. Taylor, John Ellsworth, M.D., (Physicians and Surgeons, St. Louis), 1899,
Theis, Victor, M.D., (Dearborn Medical Coll.), 1905,
Thometz, Francis Peter, A.B., (St. Ignatius Coll.), 1904,
Thurber, Harry Robert,
Tucker George Willard

Tucker, George Willard,
VonStauffer, Grace Salome, M.D., (Herring Medical Coll.), 1897,
Walker, Frahm Russell, B.S. (Lorga

Walker, Evahn Russell, B.S., (Iowa State Coll.), 1900, M.D., (Medical Dep't, Iowa State Univ.), 1905, Wallace, James Henry,

Wallace, James Henry,
Wedel, Gustav Frank Leo, M.D., (Harvey Medical Coll.), 1904,
Wiersen, Theodore Martin, M.D.,
(Bennett Medical Coll.), 1906,

Williams, William, Wood, Annie, Wood, Eulalie, Zeigler, Charles Arthur, Leopold, Ind.

Chicago.

Chicago. Yorkville. Watseka.

Oak Park.

Chicago. Ft. Wayne, Ind.

Chicago.

Chicago.
Eldorado, Wis.
Chicago.
St. Louis, Mo.
Chicago.

# JUNIORS

Alderson, Sterling Peters, Allen, Orris Thomas, Armstrong, Guy Edward, Aron, Matthew Jacob, Aschauer, Albert George, Beltzer, Charles Eugene, Bennett, Myron Elroy, Boudreau, Haydee Ursula, Braham, Julian Alfred, Bundy, Clyde Talbot, Burke, Alexander William, Byers, Earle John, Caley, Daril Milton, Camp, Harold Manlove, Claeboe, Alfred Hanson, Clark, Leslie William, Cooperstein, Joseph,

Russellville, Ky. Brocton. Green Bay, Wis. Chicago. Springfield. Osciata, Neb. Pontiac. Beaverville. Farmington, Mo. Iroquois. Chicago. Belvidere. Los Angeles, Cal. Brooklyn. Chicago. Maquoketa, Ia. Chicago.

Damkroeger, Henrietta, Davis, Olga, Donaldson, Henry Bardwell, Eck. Gustave Elmer, Eliason, Pehr Wilhelm, Ellis, Clifford Cowdel, Elliston, Leroy Bertram, Elward, Lawrence Richard, Ely, William Ray, Erwin, Harry George, Foote, Austin Alfred, Formis, John Kirk, Freemel, Isaac Frank, Freese, Arthur William, Furman, Raymond, Gabby, Samuel Lee, Gindele, George William, Gregg, Arthur W., Ph.G., (Northwestern School of Pharmacy), 1904, Griffiths, Evan Henry Montgomery, Hammerstrand, Frank Leonard, Harriman, Leonard, Harrison, Bruce Ashton, Hatch, Ernest Downing, Heacock, Edward Morton, Hirschberg, Frieda, Hoffman, Ira E., Hofman, Andrew, Hogan, John Vincent, Howser, Reid Owen, Hurlbut, Edward Franklin, Hurley, George Ira, B.L., (Milton Coll.), 1903, Ingold, John George, Jindra, Frank F., Johnson, Charles Warren, Joyce, Eduard, Kapsa, Pauline Rose, King, Auphonsus Vincent, Kipp, Cora Irene, Kirby, Oliver Cromwell,

Chicago. Chicago. Dixon. Geneva. Moroni, Utah. Chattanooga, Tenn. Princeton. Chicago. Chicago. Decatur, Ind. Clay Center, Kas. Florence, Italy. Chicago. Chicago. Larsen, Wis. Pawnee City, Neb. Chicago.

Bloomington.

Chicago.
Rankin.
Chili, Wis.
Bryant.
Chicago.
Topeka, Kan.
Grand Rapids, Mich.
Chicago.
Grand Rapids, Mich.
Niagara Falls, N. Y.
Marion, O.
Chandler, Okla.

Milton, Wis.
Riga, Mich.
Chicago.
Hopkinsville, Ky.
Dunlap, Ia.
Chicago.
Chicago.
Mineral.
Penfield.

Kjandal, Alf Magnus, Kramer, Carl Frederick Conrad, Krafft, Henry Lewis, Kraut, Elgie, Krudenier, Albert Brown, Leavy, Cuthbert Joseph, Lee, Milo, Lee, Walter Nordal, Leviton, Henry Isaac, Link, Claude Allen, McIntyre, William Russel, Mackoy, Thomas Daniel, McLallen, Robert Roy, Marietta, Shelley Uriah, D.D.S., (Drake Univ.), 1902, Matthaei, David William, Mensing, Edmund Hermann, Merten, Peter Joseph, Miller, Louis Henry, Mills, Claude J., Mills, Lewis Eelaware, Minke, Jacob John, B.S., (St. Mary's Institute, Dayton, O.), 1901, Moore, Greene, B.S., (Talladega Coll.), 1904, Moore, Samuel Marcus, Moran, James Henry, Mortensen, Oscar Nicholas, Murphey, Walter Thomas, Musselman, George Henry, Nahman, Adolph Herman, Nassar, Na'if Isa, Newman, John Lewis, Nicolai, John Leonard, Ochsner, Emil, Post, George Washington, B.S., (Milton Coll.), 1905, Pugh, Bernard McCarthy, Quinn, Lenard Cardinal, Rhodes, Thomas Whitson, Rose, Wallace Edson,

Ruus, Canute Walter,

Chicago.
Chicago.
Chicago.
North Andover, Wis.
Pella, Ia.
Oshkosh, Wis.
Aledo.
Sioux Falls, S. Dak.
Chicago.
Chicago.
Mendota.
Quincy.
Aurora.

Des Moines, Ia. Wathena, Kan. Milwaukee, Wis. Milwaukee, Wis. Pana. Sabina, O. Sabina, O.

Chicago.

Chicago.
Chicago.
Chicago.
Waupaca, Wis.
Lima, O.
Dana, Ind.
Chicago.
Munsif, Syria.
Chicago.
Chicago.
Waumandee, Wis.

Chicago. Lincoln. Goldfield, Neb. Whiteville, Tenn. Mukwonago, Wis. Chicago. Ryan, John Charles, Salzman, Samuel, Saum, Roy George, Smith, William Polson, Stromberg, Gustavus Emanuel, Summerfield, Otto Charles, Thimlor, Wiley J., Tiffin, Edwin Raymond, Ph.G., (Washington State Coll.), 1904, Torrens, Aaron Samuel, Townsley, Frank Livingston, Turner, John Arthur, Ph.G., (Northwestern Univ. School of Pharmacy), 1903, Tyrrell, Adelaide Mary, Van Hoesen, Elizabeth Nell, Wahl, Constantine Maximilian, Wakefield, Orin Russell, Watkins, Raymond Edward, Wheeler, Mary Margaret, A.B., 1906, Willard, Clarence James, Wilson, Frederic Riley,

Chicago.
Gilman.
Chicago.
Chicago.
Chicago.
New Haven, Ind.

New York, N. Y.

Spokane, Wash. Austin, Minn. Idaville, Ind.

Chicago.
Chicago.
Wilmette.
Cross Plains, Wis.
Chicago.
Chenoa.
Grant Park.
Mazomanie, Wis.
Richland, Ore.
Chicago.
Chicago.

### SOPHOMORES

Athon, Lewis Harlan, Ballard, Leon Jonathan, Bantug, Jose Policarpio,

Wyant, Andrew Robert Elmer,

Wolf, Louis Harry,

Benson, Axel Ferdinand,
Bentzien, Emil William,
Borchert, Robert Lambert,
Bradley, William Horrace,
Callahan, Herbert Williams,
Cary, Lee Winfield,
Charbonneau, Arthur Ames,
Cohn, Joseph Samuel,
Crouch, David Proudfit,
Currer, Paul MacAllister,
Czeslawski, Edward Felix, A.B., (St. Stanislaus Coll.), 1906,

Anna.
Chicago.
San Isidro, Nuerva
Eeija, P. I.
Batavia.
Milwaukee, Wis.
Chicago.
White Heath.
Garden City, Kan.
Chicago.
Ishpeming, Mich.
Chicago.
Belle Prairie.
La Suer, Minn.

Chicago.

Dale, Edna Valeria,
Davis, John Franklin,
Donahue, James Ignatius,
Donlon, Thomas Henry,
Douglass, Frank Gerald,
Epley, Clarence Oscar,
Epstein, William George,
Farbar, Marian Eleanor,
Firey, Walter Irving,
Foronda, Manuel Directo,

Frazier, Frank V, Frogner, Guy Samuel, Gallardo, Marcelino Mendoza,

Gillispie, James Charles, Goi. Michael. Graner, Leonard Henry, Green, Abraham Chester, Greenberg, Ira Edward, Grove, Arthur Francis, Gross, William August, Hedrick, William Roy, Heim, Russell Rulo, Hercik, William Louis, Hughes, Joseph Walter, Jackson, Gordon, Jacobs, Edward Benjamin, Johnston, Cecil James, Johnston, Frederick Victor, Iordan, Alvin Thomas, Kaczmarek, Edward Klemens, A.B., (St. Stanislaus Academy), 1906, Kara, John Matthew, Largent, Benjamin Franklin, A.B., (Ky. Military Institute, Louisville, Ky.), 1904, Laybourne, Ethel Mae, LeBeau, Albert Arthur, LeBeau, Phillip Max, Loomis, Western Cass, Meacham, William Charles,

Versailles, Mo. Bardin. Chicago. Chicago. Chicago. Waverly, Ia. Chicago. Beatrice, Neb. Aberdeen, S. Dak. Santa Maria, Illocus Sur. P. I. Gallatin, Mo. Waupaca, Wis. San Isidro, Nueva Eeija, P. I. Chicago. Chicago. Green Bay, Wis. Chicago. Chicago. Plainview, Minn. Elgin. Noble. Plymouth, Ind. Chicago. Chicago. Cincinnati, O. Chicago. Fostoria, O. Chrisman. Pliny, W. Va.

Chicago. Chicago.

McKinney, Tex. Greencastle, Ind. Chicago. Chicago. Chicago. Oak Park.

Meany, Daniel Edward, Moore, Otis Andrew, B.S., (Lincoln Inst., Jefferson City, Mo.), 1905, Murdock, Edgar Paul, McElvain, Robert Childers, McGarry, Charles Patrick, McKee, Walter Caraway, McLin, Thomas Garfield, McNealy, Ray William, O'Donnel, Dennis Michael, Ostrowski, Florian George, A.B., (St. Stanislaus Academy), 1905, O'Sullivan, Helen Amelia, Parke, Edward Ray, Parker, Frederick Charles, de la Paz, Danill,

Pearson, Albert,
Pettepiece, Thomas Arthur,
Pitt, Harvey,
Pulley, Louis Ammon,
Reyes, Carmelo Ma,
Rich, Homer Erastus,
Righeimer, John William,
Rogers, Jay Clifford,
Rothwell, William Thomas,
Santos, Gerrasio y Cuyugan,

Schafer, William Daniel,
Siegler, William Joseph,
Smith, Sidney Albert,
Soelberg, Paul Arthur,
Spitler, Frank Perry,
Stubenrauch, George Jacob, Ph.G.,
(Northwestern Univ.), 1892,
Sword, Howard Russell,
Thomas, Frank,
Thompson, Gordon Graham, B.S.,
(McAllester Coll., St. Paul, Minn.),
1906,
Tolentino, Nariano,

Chicago.

Columbia, Mo.
Chicago.
Duquoin.
Chicago.
Chrisman.
Fairfield.
Burlington, Ia.
Aberdeen, S. Dak.

Chicago. Crystal, S. Dak. Richland Center, Wis. Oak Park. Gapan, Nueva, Eeija, P. I. Chicago. Freeport. Dixon Corners, Ont. Chicago. Lipa, Batangas, P. I. Salt Lake City, Utah. Chicago. White Lake, S. Dak. Belle Plaine, Kan. San Fernando, Pampanga, P. I. Franklin Furnace, O. Chicago. Chillicothe. Granite Falls, Minn. Dayton.

Chicago. Lanark. Canton.

St. Croix Falls, Wis.

Magsingal, Illocos Sur,
P. I.

Vaile, DeWitt Clinton, Viltullo, John Marinelli, Voigt, Benjamin John, Walsh, John Emmett, Wilson, William H, Rochelle. Chicago. Kankakee. Richland Center, Wis. Murray, Ky.

### FRESHMEN

Barding, Lewis D, Bashur, Miss R Zerefeh, Baxter, Alfred J. Bishkow, Isadore Edward, Boon, Cornelius Edward, Boyden, Wesley Lewis, Browers, Arthur Grant, Brown, Mamie Isabel, Burkholder, Calder Phillips, Burt, Clarence Edward, Caddick, Earle, Carter, Franklin Harvick, Colteaux, John Alfred, Cragin, Wiley Moroni, Craine, John Byne, Cress, W. W, Czaja, Leon Matthew, Czekala, Henry Joseph, Dooley, Harry Joseph, Doyle, Nicholas Murray,

Duffy, Hugh John,
Egermayer, George Washington,
Elliott, Lloyd Albert,
French, Robert Royal,
Fuchsmann, Maury,
Goodman, Charles,
Gratzek, Thomas,
Haas, George Albert,
Hagie, Franklin Eugene,
Hammond, Walter Charles,
Hanzlik, Paul John,
Harkins, Claude Howard,
Hart, John Franklin,
Hartrick, Louis Eugene, B.S., 1901,

Pana. Tripoli, Syria. Astoria. Chicago. Zeeland, Mich. Seymour, Wis. Chicago. Iroquois. Marengo. Henry. Quincy. Vienna. Roberts. Ogden. Chicago. Monticello, Ind. Chicago. Chicago. Chicago. Freelton, Ontario, Canada. Chicago. Chicago. Elkhart, Ind. Chicago. Chicago. Chicago. Florian, Minn. Chicago. Elizabeth.

Chicago.

Macomb.

Quincy.

Urbana.

Cedar Rapids, Ia.

Hass, Richard. Henderson, Frederick Arthur, Hess. Edward, Huckin, Franklin Roscoe, Huyser, William C., Ihland, Leonard, James, William Alfred, Johnson, John Henry, Jones, David Jimson, Kelleher, George Francis, Kistinger, William Frederick, Kittleson, Emil C. Knott, Harry, Lapham, Elah A, Lauzer, Fred Arthur, Levinson, Abraham, Leviton, Nathan David, McCarthy, Ralph Rowland, McClellan, John Hancock, Ph.D., (Harvard Univ.), 1906, McCormack, Alexander Edwin, Macko, Theodore Frederick, Maher, Loretta Katherine, Manno, Gaspare, Manoogian, Krikore Manoogian, Mosley, Elmer W, Orzechowski, Victor, Ostrowski, Leonard Joseph, Ph.G., (Chicago Coll. of Pharmacy), 1905, Perez, Gilbert Summers, B.S., Pratt, Roscoe Wellington, Ricker, Charles Craver, Riley, William John, Rutkus, Susan Aldona, Sanders, Robert Quirk, A.B., (James Millikin Univ.), 1907, Schwartz, Harriett Cecelia, Shaynin, James, Sochat, Leon, Squire, Charles Milton, Sprecher, Louis Harrison, Stordock, Gilman Llewelyn,

Chicago. Anderson, Ind. Chicago. Ogden. Zeeland, Mich. DeForest, Wis. Chicago. Chicago. Chicago. Elkader, Ia. Ransom. Rochelle. Plymouth, Ind. Chicago. Hutchinson, Minn. Maywood. Chicago. Chicago.

Lexington, Ky.
Elgin.
Chicago.
Chicago.
Chicago.
Choonkoosh, Armenia.
Chicago.
Chicago.

Hammond, Ind.
Chicago.
Chicago.
Harvey.
Darlington, Wis.
Grassville, Ind.

Dccatur.
Bessemer, Mich.
Oak Park.
Chicago.
Rockport, Ind.
Lanark.
Beloit, Wis.

Sullivan, Norman Ross, Sutter, Rose Irene, Ten Broeck, Carl, Thomas, Colin G., Tichenor, Elmore Drane, Valentine, James Andrew, ·Vilna, Bretislav Lidumil, Way, George Fritz, Wilson, Franklin Samuel, Ph.G., (Univ. of Ill. School of Pharmacy), 1894, Wilson, Henry Mason, Winder, Hiram Louis, Yeck, Charles Walter, Zimmerman, Goldie Eleonara, SPECIALS Browning, Harry DeForest, Collier, Lewis B., M.D., (Rush Medical Coll.), 1889, Fisher, Roy Gavin, Harrell, Francis Marion, D.D.S., (Kansas City Dental Coll.), 1879, M.D., (Keokuk Medical Coll.), 1881, Kennedy, James G, Ph.D., 1888, M.D.,

Aspen, Colo. Crookston, Minn. Parsons, Kan. Monticello. New Orleans, La. Conrad, Ia. Chicago. Gibson City.

Chicago. Magnolia. Rochelle. Flora. Aberdeen, S. Dak.

(Jenner Medical Coll.), 1898, Lewis, Clyde Austin, M.D., (Bennett

Medical Coll.), 1907, Lewis, Margaret Douglas, M.D.,

(Northwestern Medical Coll.), 1897, Morrison, Hugh Tucker, A.B., (Drake Univ.), 1900,

Nickel, Frank William,

Preston, Benjamin Spotswood, Ph.G., (Univ. Coll. of Medicine, Richmond, Va.), 1897, M.D., (Physicians and Surgeons, Baltimore, Md.), 1902,

Schnurrenberger, Joseph Henry, Sheppard, James Roseborough, M.D., (Flint Medical Coll.), 1904,

Shutan, Mary, B.S., (Florida State Coll.), 1902,

Moline.

Merrill, Wis. Chicago.

Chicago.

Chicago.

Chicago.

Bareilly, India.

Chicago. Charles City, Ia.

Burnwell, W. Va. West Austin, O.

Lodi, Tex.

Chicago.

Steele, Harry George, M. D., (Physicians and Surgeons, Baltimore),.
1903,
Stone, Frank Lee,
Thompsen, Elmer H., M.D., (Rush Medicat Coll.), 1903,
Thurman, Robert Thomas, M.D.,
(Louisville Medical Coll.), 1907,
Walt, David Crockett,
Wright, Ida May,

Wunderlich, Anna Amalia,

Keystone, W. Va. Chicago.

Burbank, Cal.

Muskogee, Okla. Little Rock, Ark. Chicago. Chicago.

## COLLEGE OF DENTISTRY

SENIORS

Armstrong, Neil Holland, Bandelin, Carl Frederick, Bernard, Frank Joseph, Budworth, Clyde Alvin, Burke, William Theo, Daye, Chester Walter, Earley, William Francis, Ebert. Frederick Edward, Ehrlich, George Theodore, Feldsher, Noah, Faber, Henry Nicholas, Green, Jacob, von der Heydt, Harry Karl, Hopkins, Hugh Benjamin, Hough, Michael Francis, Jones, Harry Lysander, Joyce, Frank LeRoy, Kaufman, Henry Joseph, Klumb, Edward Frederic, Korshak, Harry Max, Kubitz, Harvey H., Larsen, James Andres, Mitchell, Walter Theron, Newman. Louis, Ponce, Francisco, Pontius, Melvin E., Ramsey, Paul H.,

Urbana. Grand Rapids, Wis. Galena. Cassville, Wis. Ishpeming, Mich. Westfield, Wis. Streator. Champaign. Chicago. Chicago. Jersey City, N. J. Chicago. Oak Park. Valders, Wis. Chicago. Chicago. Waterloo, Wis. Freeman, S. D. Thiensville, Wis. Chicago. Oak Park. Chicago. Macon, Ga. Chicago. Bulocau, P. I. Presho, S. D. Aledo.

Stone, Reuben Alexius,
Stone, William H.,
Stoughton, Elmer Bovee,
Swatek, Edwin Paul,
Vorwerk, Frederick William,
Willcox, Henry L.,
Warner, Maud Muriel,
Warner, Clyde Herbert,

Chicago.
Chicago.
Rogers, Ark.
Chicago.
Chicago.
Rochelle.
Chicago.
Chicago.

## JUNIORS

Aron, Rose,
Bailey, Orpha Clark,
Berlin, Ben,
Browne, Alexander Cecil,
Droberg, Walter,
Feiok, Richard F.,
Gordan, Douglas Clyde,
Hanson, Herbert S.,
Johnson, H. Clifton,
Lerche, Thorleif,
Seidel, Julius H.,
Shaver, Maitland V.
Shunk, Bernice Bentley,
Williams, John Caldwell,

Chicago.
Leesburg, Ohio.
Chicago.
Chicago.
LaPorte, Ind.
Freeman, S. D.
Fairplay, Mo.
Chicago.
Hopkinsville, Ky.
Chicago.
Quincy.
Irving Park.
Sharon, Wis.
Jacksonville, Ala.

#### FRESHMEN

Andrews, William Hayward,
Brock, Alonzo S.,
Bellows, Hgalman N. O.,
Coghlin, William Perry,
Feferman, Harry,
Hayes, Elmer Alexander,
Henninger, Bernard L.,
Jacobstein, William Benjamin,
Kressin, Louis J.,
Larkin, Hugh Alfred,
Latham, Lloyd Warner,
Lee, Victor Lawrence,
McNulty, James Anthony,
Mercer, Samuel Osburn,
Moomey, Medil Lloyd,

Oak Park.
Louisville, Ky.
Chicago.
Kankakee.
Chicago.
Galva.
Chicago.
Chicago.
Milwaukee, Wis.
Northfield, Minn.
Pekin.
Chicago.
Spring Green, Wis.
Mt. Pleasant, O.
Blue Mound.

Nordeen, Emil Ludwig, O'Hora, James Anthony, Rasmussen, Paul Erven, Rosengreen, John H., Russakov, Samuel Isaac, Shafer, Harry Burns, Shaffer, Lee H., Schacht, Charles H., Taft, Walter Leonard, Vann, George Henry, Whitehead, John William,

Chicago.
Avoca, Wis.
Omaha, Neb.
Salt Lake City, Utah.
Chicago.
Anna.
Aledo.
Chicago.
Knoxville, Pa.
Clinton, N. Y.
Easton.

## SPECIAL STUDENT

Kingsley, Austin Cain,

Jacksonville.

## SCHOOL OF PHARMACY

## SENIORS

Afremow, George, Anderson, Fred Kramer, Baldwin, Harold Dudley, Banerjee, Amar Nath, L.M.S., (Calcutta University), 1901, Blatt, Joseph Arnold, Bowden, William Turner, A.B., (Roger Williams University), 1905, Cazel, Ernest Clyde, Crawford, Leslie Ray, Dahlin, Horace Otto, Davies, Byron Lake, Denson, Wayne Crawford, Doerr, Walter William, Dunn, Everett Aldon, Earel, Raleigh, Ferguson, William Allen, Fett, Otto August, Fidler, Delmar Nelson, Frantz, Bruce Carr, Ginnsy, Leo Aloysius, Gray, Ralph Mortimer, Heimsath, Peter Albert, Kisner, Auburn Seth,

Chicago. Wenona. Hampton, Ia.

Bemares City, India. Chicago.

Chicago. Evanston. Nachusa. Pittsburg, Pa. Chicago. Minonk. Chicago. Duquoin. Quincy. Minooka. Chicago. Watseka. Pekin, Ind. Chicago. Chicago Heights. Aurora. Brownsville.

Knick, George Ferdinand, Kohn, Newman, Kraft, Herbert Ernest, Kuflewski, Frank August, Langenhan, Henry August, Lorenz, Otto John, Luckenbach, Walter Conrad, Lukasek, Otto William, Luken, Edward Emil. Lyons, Frederick James, Miles, Eugene Lester, Miller, James Strachen, Mottar, William Darrell. Munns, Elmer Edward, Owens, Alvardo Benson, Pavlicek, Adolph Vaclay, Polk, John Knox, Powell, Thomas Benton, Ir., Propp, Charles, Rauschert, Herman Lawrence, Renaud, James Patrick, Ruesch, William Emanuel, Schreiber, Paul Fred, Sells, Charles George. Serritella, Michael Archangel, Shipman, Frank Edmund, Skinner, Harry Garrison, Soult, Roy Mont, Staman, William J. Stark, Carl Frederick, Staszak, John, Stromer, Frank Bengal, Stuker, Conrad Stephen. Tervehn, William Richard, Tomlinson, Walter Edmund, Tompkins, Rexford De, Urban, John Joseph, Voss, Steward Franklin, Webster, Stanley Ballenger, Williamson, Wyley Porter, Wirth, George Carl, Zuck, Frank James,

Chicago. Chicago. Chicago. Chicago. Ableman, Wis. Chicago. Oconto, Wis. Chicago. Chicago. Grand Junction, Mich. Chicago. Coal City. Springfield. Chicago. Savanna. Chicago. Versailles, Ky. Vienna. Chicago. Lake Mills, Wis. Chicago. Joliet. Chicago. Chicago. Chicago. Paris. Yates City. Fredonia, Pa. St. Joe. Ind. DeKalb. Chicago. Chicago. Chicago. Peoria. Galesburg. Mt. Sterling. Chicago. Assumption. Winslow. Marietta, O. Duluth, Minn. Rockford.

### JUNIORS

Alford, James Bell, Anderson, Gustav Adolph, Anderson, Mary Scott Leinbaugh, Annibale, Frank, Arkins, James Elmer, Arthur, Howard, Baker, Luther, Barnett, Irving Francis, Battaglia, Joseph, Bazner, Gustav, Beck, Frank Lewis, Berg, Conrad August, Bevermann, Hugo Frank, Bills, Joseph LeRoy, Bock, William, Brown, Charles Wesley. Bruzewicz, Joseph, Bujewski, Thadeus John, Buresch, Louis Albert. Calabrese, Vincenzo, Caldwell, Robert Henry, Carthan, William Arthur, A.B., (Morris Brown College), 1902, Carvelli, John, Cheleski, John Kosmer, Cholewinski, Andrew Francis, Cohn, David. Cole, Arvelle Richard, Comes, Urban Volpert, Conkey, Aaron W, Conners, Harry, Cover, Augustus Fringer, Cropper, Pearl Arthur, Czaja, Leo Matthew. DeMers, Octave Jay, Downs, Cashes Clay. Eck, Charles Patt, Edlund, Arthur, Eicher, Anna, Elliott, Leo E,

Elson, John LeRoy,

Columbus, Miss. Rockford. Dallas City. Chicago. LaSalle. Decatur. Astoria. Chicago. Chicago. Chicago. Anderson, Ind. Roseland. Chicago. Shelton, Neb. Smithton. Ruthville, Va. Chicago. Chicago. Chicago. Chicago. Caledonia, Miss.

East Macon, Ga. Chicago. Chicago. Chicago. Springfield. St. Louis, Mo. Chicago. Blandinsville. Bellevue, O. Toulon. Chicago. Chicago. Assumption. Danville. Chicago. Chicago. Chicago. Chicago. Chicago.

Englund, Arthur Theodore, Evans. Oliver Morton. Fernholz, Emil Godfrey, Fingl, Anton William, Fingl, Edward George, Fitzsimmons, LeRoy, Ford, Robert Emmett, Frauenhoff, Frederick Louis, Frish, Frank Lawrence, Gamalski, Joseph George, Gans, Arthur, Gold, Hymen, Golombiewski, John Peter, Gross, Schuyler Van Rensselaer, Grosse, Benjamin Carl, Grove, John Cell. Gunning, DeLancy Thomas, Gunther, Edward William, Hagan, James Harry, Haider, Walter, Halfacre, Edward Joseph, Halperin, Louis Evan, Hammar, Leonard Axel, Heath, Charles Ford. Heimsoth, Henry Christian John, Herter, Henry Anthony, Hibbe, Charles, Hindman, Finis, Howell, Julian Buhner, Howly, John George, Jenkins, William Laud, Jodar, Louis Paul, Johnson, William Frederic, Johnston, John Lynch, Josenhans, Paul Reinhold, Kehoe, John Carolan, King, Charles Aaron, Knox, William Pierce, Kobylanski, John Francis, Konopa, Joseph Florian, Koukalik, Albert, Kowalski, Czeslaw Martin,

Decatur. Harvard. Chicago. Chicago. Muscatine, Ia. Denver, Colo. Aurora. Chicago. Detroit, Mich. Council Bluffs. Ia. Chicago. Chicago. Lake Mills, Wis. Elgin. Chambersburg, Penn. Wilmington. LaSalle. Chicago. Beaver Dam, Wis. Columbia. Tenn. Chicago. Chicago. Chicago. Havanna. Springfield. Chicago. Herrin. DuQuoin. LaCrosse, Wis. Eastman, Ga. Plymouth, Wis. Keithsburg. Chicago. Chicago. Waukegan. Chicago. Rensselaer, Ind. Chicago. Chicago. Chicago. Chicago.

Escanaba, Mich.

Kral, Fred Frank. Kremer, Frank, Jr., Krupicka, Joseph, Leininger, Otto William. Lindstrum, Charles Edward, Liska, John Joseph, Logan, Chester Arthur, Lutz, Carl William, McDonnell, Philip Rodger, McNamara, Thomas Joseph, Madison, Douglas Thompson, Marcotte, Adelard, Marks, Leon Arthur, Matey, Charles, Michalek, John Joseph, Millen, Justus Townsend, Moffat, Frederick Earle, Montgomery, Grover Cleveland. Mori. Kinro. Moritz, John August, Mrazek, Charles Joseph, Mueller, John Fred, Myerson, Edwin Sidney, Nathan, David. Naviaux, Albert Renny, Niedzwiecki, Leo Joseph, Nielsen, Charles Frederick, Niemeyer, Albert Philip, Niesen, Theodore Bernard, Niggling, Martin, Oberg, Clarence Julius, Oberg, Oscar Carl, Ogg, Roy Roscoe, O'Meara, William Aloysius. Osborne, Thomas, Parrella, Salvatore, Pelikan, Edward Joseph, Pellett, Walter John, Pellettieri, Amedes, Pellettieri, John, Peska, Alexander Casimir, Peters, Henry Onno,

Chicago. Chicago. Chicago. Chicago. Chicago. · Chicago. Elizabeth. Ottarva. Chicago. Ottawa. West Chicago. Kankakee. Cincinnati, O. Chicago. Chicago. Springfield. Park Ridge. Birds. Nagoya, Japan. Chicago. Chicago. Quincy. Chicago. Chicago. Lexington, Neb. Chicago. Chicago. Quincy. LaSalle. Remsen, Ia. Chicago. Rock Island. Springfield. Chicago. Chicago. Chicago. Chicago. Manitowoc, Wis. Chicago. Chicago. Chicago. Peoria.

Pisani, Vito, Ploetz, William Ernst, Prentice, Samuel George, Prominski, Victor Henry, Rains, Ernest Kingdom, Rambo, John Myron, Ratajik, Felix James, Rimsa, Jerry Edward, Rosenbaum, Frank Albert. Rosenstone, Rutherford Gustavus. Roth, Victor, Rouleau, Francis Joseph, Rummerfield, Larry Lewis, Ruth, Grove Helmer, Sammarco, Nestore, Savoie, Felice John, Schereschewsky, Rudolph, Schindel, Edmund, Schmid, Rose Phillipus, Schneider, John Henry, Schnitzler, Stephan, Schroeder, Otto Albert, Sherman, Lewis John, Shipsman, Charles, Sisk, John Edgar, Smith, Ellis Glen, Smith, Halley Ambrose, Spencer, William Smith, Staniforth, George F, Starshak, Alphonse Leon, Stein, Sigmund, Streit, Joseph Clemence, Stocks, Robert Harvey, Stoeffhaas, Otto. Strzoda, Robert Aloysius, Stulik, Charles, Sughrua, Thomas Joseph, Talmage, Nathan, Terrell, Edward, Tetu, Frank Joseph, Thompson, Milton White, Tomashek, Frank Edmund,

Chicago. Shevboygan, Wis. Chicago. Chicago. Chicago. LaMoille. Chicago. Chicago. Chicago. Cambridge. Chicago. Manteno. Rockport, Mo. Lakefield, Minn. Chicago. Gilman. Chicago. Aurora. Chicago. Dubuque, Ia. Chicago. Palatine. Chicago. Chicago. Marion. Bloomington. Antioch. Chicago. Homer. Chicago.

Trachman, Charles, Transeau, William Ray, Tremblay, Edward George, Tugwell, Richard John, Jr., Turalski, Walter Joseph, Tyrell, Frank Joseph, Underriner, Harry Aloys, Valentine, Clarence Leslie, Van Dusen, Richard, Venn, Henry Leonard, A.B., (St. Ignatius College), 1906, Veseley, Anton Victor, Voss, George Kimmel, Wall, Warren Aurand, Walter, Charles Elmer, Waterman, Ben Coldby, Watson, Daneil Clark, Webb, Thomas Edward, Webster, Claude Augustine, Wendt, John Frederick, Wenigman, Paul, Jr., Wester, Gustav Adolph, Wheeler, Roy, Wiehn, John William, Williamson, Melville Enoch, Winborn, Elmer Norris, Woltersdorf, Oscar, Zimmermann, Clemence, Zito, Rocco, Zur, Victor Edward,

Joliet.
Ransom.
Chicago.
Maywood.
Chicago.
Chicago.
Effingham.
Aurora.
Allegan, Mich.

Chicago. Chicago. DuQuoin. Elkhart, Ind. Aledo. Kilburn City, Wis. St. George, Utah. Warren, O. Benton. Huntley. Chicago. Chicago. Chicago. Westchester, N. Y. Chicago. Detroit. Mich. Chicago. Peoria. Chicago. Chicago.

SPECIAL

Cassin, Elmer Eldorado, Ph.G., 1907, Ogden, Utah.

# SUMMARY OF STUDENTS, 1907-1908

•	Men	Women	Total
GRADUATE SCHOOL	163	43	206
Undergraduate Colleges-			
Şeniors		144	423
Juniors Sophomores		98 112	425 623
Freshmen		193	975
Specials		97	392
Specials	2194	644	2838
SUMMER SESSION		222	555
Remained, counted above		59	193
C I	199	163 -	362
College of Law— Third year	20		30
Second year			52
First year	73	I	74
Specials	. 30		30
*	185	I	186
College of Medicine—			-60
Şeniors		12	165
Juniors		9 4	90
Sophomores		7	86
Unclassified	* *_	4	20
Chelabolited	440		476
COLLEGE OF DENTISTRY—			
Seniors	00	I	36
Juniors		I	14
Freshmen		2	26 — 76
SCHOOL OF PHARMACY—	<del></del> 74		
Seniors	. 64		64
Juniors	. 191	3	194
Specials	I		I
	3511		
Deduct counted twice			
	3492		4379
ACADEMY*			374
Total in University	3762	991	4753
Undergraduates by Colleges, S	SCHOOLS,	AND CLASS	SES
	Jun. Sop		Sp. Total
Lit. and Arts115	126 178		56 778
Science 53	47 52		8 269
Engineering162	200 313		57 1183
Agriculture 46	50 72	103	219 490
Library 46			46
Music <u>I</u> _	_2 _ {	<u> </u>	52 72
Total 423	425 623	3 975	392 2838

<sup>\*</sup>See Appendix.

# **DEGREES**

Commencement Day, June 10, 1908, degrees were conferred as follows:

A.B.

Edwina Eunice Abbott. Deborah Chase Akers. Albert Allen. George Herbert Anderson. Annie Mary Applegate. Harry James Atkinson. Irwin Woodward Bach. Jessie Emma Baldwin. Winifred Agnes Bannon. Edna Pearl Barnhart. Daniel Middlekauff Beal. Fred Parker Benjamin. Stella Bennett, B.L.S., 1903. Hazel Besore. Lee Ross Blohm. Nellie Matilda Bredehoft. Winnina Ella Brownson. Florence Louise Brundage. Sarah Elizabeth Bryan. Louis Buenger. Arthur Pingree Bumstead. Harry Holdridge Burgess. Opal Burres. Carolyn Elizabeth Busey. Charles Bowen Busey. Ethel May Bushnell. Beatrice Martindale Butler. John Prescott Butler. Ira Thompson Carrithers. Mae Chapin. Daniel Leroy Christopher. Winnifred Hazel Clifford.

Paul John Hanzlik. Hope Herrick. Carrie Marsh Hill. Lura Ethel Hoge. Charles Ray Holton. Eva Huffman. A Frazier Hunt. Ruth Hvndman. Cora Anna Jacobs. Eda Augusta Jacobson. George Koser Johnson. Oscar Joseph Jordan. Grace Osgood Kelley, B.L.S., 1903. Ruth Kelso. Sarah Elvira Kibby. Pearl Kindig. George Emmett Knappenberger. Carl Fred Knirk. Ida Louise Lange. Julia Anna Lawless. Jennie Mae Lloyd. Arthur Theodore Long. Ralph Atkinson Lynch. Myrtle McCain. Wendla Justitia McCaskey. Alice Birdie McDonald. Lewis McDonald. Ella Elliott McIntyre. George Madison. Lyman Samuel Mangas. Nellie Pearl Matthews. Bertha Alice Miller.

George Herbert Coons. Hazle Katherine Cooper. Flemin Willit Cox, Jr. Irving Hughey Cox. Maurice G Dadant. Albert Hartman Daehler. Dora Davidson. Marieta Syrl Davis. Chester Robert Dewey. Louise Sarah Dewey, B.S., 1897, Mabel Verona Ostrander. M.S., 1899. Mary Gertrude Doherty. Earl Willoughby Donoho, A.B., Minnie Leonora Parker. (McKendree College), 1904. William Watson Earnest. Jeanette Ellen Edwards. Adeline Christine Eiszner. Arthur Jackson Ellis. Sarah Wooster Eno. Oscar Bryant Frazer. Robert Edward Garnett. Vida Celinda Gentsch. Egbert George Gesell. Hugh Glasgow. Robert Douglass Glasgow. Elizabeth Victoria Griswold. Alfred Otto Gross. Edward Leverich Hall. Louise Shipman. Irwin Webster Smith. Leslie Alden Smith. Stanley S Snyder. Elsie Roberta Sonntag. Viola Hope Sonntag. Edith Lillian Spray, B.L.S., 1907. Robert Lorenzo Webster. Charles Sumner Stewart. Paul Prime Stone. Fleda DeVere Straight. Bernard Andrew Strauch. Joseph Benjamin Streid.

1903.

Nellie Grant Miller. Ada Mae Miner. John Beverly Moore. Grace Eleanor Murphy. Mary Ethel Nation. Jessie Ruth Newcomb. Marion Starr Nichol. Charlotte Marie Nydegger. Lulu Claire O'Hair. George Merit Palmer. Jay Boardman Park. Irene Mary Parsons. Arthur Columbia Pearman. Leonora Naomi Perry. Winifred Almina Perry. Mary Esther Pfeil. Nellie Milderd Porterfield. Jessie Eulalia Rambo. Howard Allen Ray. Amy Lucile Rolfe. Nellie Irene Rutledge. Agnes Lucy Sargent. John Henry Sawyer. Albert Charles Schertz. Hiram Thompson Scovill. Edith Naomi Scrogin. Jessie May Toland. Harvey Benjamin Urban. Cora May Van Galder. William Jad Wardall. James Merton Watters. George Fritz Way. Nina Mary Weinberg. Lena Lee White. Wiehe Alice White. Stanley E Wilkinson. Howard Chandler Williams. Anne Davies Swezey, B.L.S., Florence Williamson. Edwin Leonard Wilson.

Lois Edna Swigart. Nellie Florence Taylor. Carlon Ten Broeck. Jennie Insley Thomas. Lelia Sara Wilson. Willabelle Bernice Wilson. Beulah Miles Wood. Mary Emily Woodbridge.

B.S.

Nelle Major Dickinson. Edwin Bert Adams. Robert Stuart Arthur. Charles Foster Dieter. Bessie Dillon. Paul Wiley Atwood. Mark Deems Disosway. Joseph Paul Aumer. Roscoe Lawrence Ball. Earl Willoughby Donoho, A. B., Lawrence Byron Barker. Charles Bedard Dugan. Jesse Logan Barrett. Harold Houghton Dunn. Edwin Jacob Bartells. Frank Wright Dunning. George Case Bartells, Jr. Daniel Austin Edmunds. August Harvey Bauer. Charles Bayard Baxter. Jesse Thomas English. Arthur Linn Bear. Harriet Grace Ewing. Solomon Milton Berolzheimer. Daniel Cleveland Faber. Teresa Ruth Berolzheimer. Emmett Emerson Fast. William Z Black. Ora Stanley Fisher. Gerard Leonard Fossland. Viron Joseph Boothe. Walter Lee Gaines. Julius Valentine Bopp. Paul Gillespie. George John Bouyoucos. Emil Mark Diedrich Bracker. Eugene Franklin Gilstrap. Harrison Frederick Gonnerman. Percy Belmont Bradshaw. Herbert Amery Brand. Paul L Grady. George Earl Bronson. Ray Austin Graham. Ira Sanford Brooks. David John Grant. James Henry Greene. Harry Clifford Brown, Jr. William Bertram Greene. Benjamin Payson Burgess. Edward Alexander Grubel. Milo Eugene Burwash. Horace Leland Bushnell. Ward Elmo Hall. Archie Stanton Buyers. Ward Everett Hall. Ira Hampton. Frank Milton Byers. John Braham Cabanis. Frank Lawrence Hanson. Rubey Osgood Harder. John Webster Cairns. Albert Jesse Harris. Samuel Charles Campbell. Robert Jay Candor. Florence Harrison. Mortimer Burnham Cleveland. Mark Ross Havnes. Byron Kemp Coghlan. Lee Herbert Hazard. Curtis Earl Connard. Arthur Noble Heaney.

Frank Louis Cook. Gordon William Crossett. Stanley Gardner Cutler. Hiram Linus Deal. Ralph Emerson Deets. Otto Arthur Dicke. Theron Robinson Howser. Harry Henry Hudson. Albert Phillip Hueckel. William Clemens Hueckel. Walter William Huff. Agnes Hunt. Ralph Kent Hursh. George Emile Jaquet. Horace Norman Jones, Jr. Erwin Byron Jordan. Herbert Edward Kahlert. William Waddell Kautz. Franklin Thompson Kegley, Jr. Walter Washington Kerch. Fidel Vidal Larracas. Robert Louis Latzer. Frank Earl Leidendeker. Frederick Manley Liggett. Fred Sterling Lodge. Clarence Chester Logan. Grace Belle Logan. Frank Brewer Long (as of the class of 1887). Joseph Ayres Long. Earnest Harbin Loutzenhiser. Robert James Love. Thomas Grover Lowry. Arthur Lumbrick. Milton Howard McCov. Robert Weir McCracken. Lewis McDonald. Matthew Hunter McMillan. Howard Staat Malcolm. Howard Leslie Mann. Roger Dearborn Marsden. Everett Andy Maze.

Klaus Edward Hellstrom. George Boyer Herrin. Horace Gaylord Hobbs. Clarence Irvin Hogue. Sidney Viel Holt. Hyman Jacob Hoodwin. Charles Stephen Pillsbury, A.B., Hiram James Powers. Jose de la Rama. John Franklin Reno. Raymond Elder Robinson. Franklin Newton Ropp. Fred John Routson. Jose Gorgonio Sanvictores. Arthur Schwern. Arthur Terwilliger Seaman. Hermenegildo Sevilla. Agnes Nancy Shannon. James William Shaw. Frank Simpson. Charles Monroe Slaymaker. Claire Howland Wallace Smith. Ellis Edwin Smith. Rufus William Smith. Leif Peder Bjorgvin Solberg. Fannie Grace Clara Spencer. Jacob Leander Stair, Jr.. Howard Russell Stanford. Herbert Coles Stephens. Charles Arthur Stewart. Ross McGehee Stiff. Spencer A Stinson. Edward Anthony Styles. Roy Elmer Taylor. Fred Terrill. Elmer A Tilden. Michael Streevey Toops. Burton Floyd Tucker. Jesse Orrin Tucker. Wilbur Eugene Underwood. George Athol Van Brunt.

485

David Stanley Meadows. Clarence Benwell Miller. Joseph Kennedy Moore. Meryl Stanley Morgan. James Edwin Morris. Walter Ross Moulton. Guy Elmer Munger. John Adams Neuman. Gertrude Niederman. Ingo Charles Nitz. George Chauncey Olmsted. Washington Warren Parker. George Edward Pfisterer. Raymond Clark Pierce. Ralph Alfred Pillinger.

Vernon Vaniman. Frank Van Inwagen. Robert Milton VanPetten. Fritz Wagner, Jr. Nellie Elizabeth Waughtel. James Madison Warner. Charles Eugene Waterhouse, A.B., 1907. Drury Lee Weatherhead. William Barnett Webber, Jr. Emil August Weber. Earle Archibald White. Clarence Edmund Wickersham. Claude Ethelbert Winn. Henry Hanna Ziesing.

# LL.B.

John McCawley Baird. David Frederick Barloga. Roy Hanlin Brown, A.B., Walter Ellsworth Child. Robert Burton Clark. Daniel V Dayton. James Gladden Elliott. Ray Frank Feagans. Leon Ernest Fisher. Earl De Vere Finch. Hamilton McLure Forman. Herbert Augustus Hays. Juan Fernando Hilario. Alfred Atwood Johnson. Thomas Beach Lewis.

Rufus Edward Lybarger. Harry Cummings Moran. 1906, John Emery Morrison. Charles Joseph Moynihan. Mark Edmond Nebeker. Thomas William Quinlan. Harold Denio Roth, LL.B., University of Nebraska, 1905. Lowell Babcock Smith. Hugo John Thal. Walter Bain Warder, A.B., 1906. Robert William Waugh. Leverett Chase Westervelt. Horace Clinton White. Charles Harlington Wood.

# B.Mus.

Mary Elizabeth Laflin.

#### B.L.S.

Mayme Batterson, Ph.B., 1901. Mary Prudence Billingsley, A.B., Margaret Hutchins, A.B., 1906. 1002. Ethel Bond, A., B., 1907.

Clara Louise Gridley. Ida Louise Lange. Grace Dorothy McMahon. Ida Belle Caldwell, A.B., 1908. Christina Denny, A.B., 1905. Annebell Fraser. Lydia Ann Phillips, A.B., 1905. Elizabeth Ten Eyck Stout. Fleda De Vere Straight.

#### Ph.D.

Clarence Walworth Alvord, A.B., James Alburn Chiles, A.M., 1898.
1891. Hans Jacob Hoff, A.B., 1901.
Clarence Edwin Carter, A.M., Katherine Alberta Layton,
A.B., 1906. A.B., 1906,

#### A.M.

Carl Elmer Armeling, A.B., 1904. Elmer James Myers, A.B., 1907. Elizabeth Ruth Bennett, A.B., Mary Elizabeth Hodges Owen. A.B., 1907. 1903. Lloyd Slote Dancey, A.B., 1907. Susan Martha Reed, A.B., 1907. Anna Edith Day, A.B., 1907. Ruric Creegan Roark, A.B., 1907. Thomas Reuben Ernest, A.B., Hazel Yearsley Shaw, A.B., 1907. 1907. Henry Ellsworth Ewing, A.B., Adaline Margaret Shoop, A.B., 1904. Charlotte Mitchell Gibbs, A.B., Millicent Stebbins, A.B., 1906. 1904. William Warren Stifler, A.B., Adolph Gore, A.B., 1905. 1002. Carl Henninger, A.B., 1907. Mildred Ann Burrill Stone, A.B., Alfred Wilhelm Homberger, A.B., 1903. Carl John Strand, A.B., 1907. 1905. Emma Gertrude Jaeck, B.L., 1903. Maurice Cole Tanquary, A.B., Adeline Miriam Jenney, A.B., 1907. 1899. Paul Eberhard Werckshagen, Mabel Clare Johnson, A.B., 1907. Graduate of Gymnasium, Sch-Selden Gale Lowrie, A.B., 1907. wedt, Germany, 1900. Blaine Free Moore, A.B., 1901. Lora Wright, A.B., 1905. Harry Cleveland Morrison, A.B., 1907.

# M.S.

William Leonidas Burlison, B.S., Adam Albert Hummel, B.S., 1905.

Joseph Eames Greaves, B.S., Yoshifusa Iida, B. Agr., 1902.

Amos Newlove Merrill, B.S., 1896.

James Weston Hammond, B.S., Friend Curtis Quereau, B.S., 1906.

Bruce Magill Harrison, B.S., Willis Eugene Tower, B.S., 1904. 1905.

# M.Arch.

Walter Francis Shattuck, B.S., 1891.

#### C.E.

John Edward Kemp, B.S., 1901.

#### E.E.

Thomas Hamer Amrine, B.S., 1906.

# HONORARY DEGREES

# LL.D.

HENRY CHURCHILL KING, President of Oberlin College.
FREDERICK JACKSON TURNER, Professor of History, University of Wisconsin

Wu Ting-Fang, His Imperial Chinese Majesty's Envoy Extraordinary and Minister Plenipotentiary to the United States of America.

At the commencement of the College of Medicine, June, 1908, degrees were conferred as follows:

# M.D.

Frederick

Robert Earnest Anthony, M.D.
Robert William Armstrong.
Edmund Max Arnold.
Samuel Edwin Arnold, B.S.,
M.D.
Charles Richard Bates.
Bertram Robert Beers.
John Milton Berger, A.B.
Frederick Amon Berry.
Bernard Johan Beuker.
Martin Taylor Billingslea.
Edward Theodore Biwer.
William Alvin Brandon.
Elmer Ellsworth Brinckerhoff.
Marcus Francis Brown, A.B.

M.D.
Charles Wesley Hutchinson.
Charles William Imwall, M.D.
Oscar Elgie Ishmael.
Earl Jamieson, M.D.
Thyra Hildegrade Josselyn.
Thomas Mathias Joyce.
Andrew Cyril Kelly.
John Luther Knapp.
Jerome Francis Kucera, M.D.
Joseph Clinton Lalor.
William Raphael Larkin.
Wilmert Paul Laue, M.D.
Arthur Lederer.

Mortimer

Huntley,

Alonzo Alcesta Browning. Clifford Bullen. Herman-Winford Bundy. Foster Kendrick Camp, M.D. Milo Roy Campbell. George Washington Cassaday. Harry Vincent Christopher. Floyd Ferdinand Clark. Emanuel Harry Clayton. Henry Ward Clifton, Ph. G. Thomas Littleton Cockrell. William Clyde Comee. Mary Leah Cook, M.D. Norman Copeland. George L Cousineau. James Francis Dennis. George Harvey Doane. John Edward Dolan. Yeprous Martin Doodokyan. Thomas Franklin Dornblaser, Robert Mosser, Ph.G. B.S.

Richard Edward Dowd. Roden Robinson Duff. Charles Austin Durkee. John Wesley Fckman, Jr. Raymond Brooke Essick. John Henry Evans. William Henry Fortin. Mathilda Freitag. George Romeo Fugina. Joseph Alfred Gaudet. John Joseph Gearin. William Francis Gerety. Emery Wells Goembel. Solomon Maxwell Goldberger. Michael Goldenburg. Edward Frank Gollobith, Ph.G. Glenn Godfrey Gordon. Phillip Abernethy Graves. Edwin James Greer. Frances Joseph Griffin, A.B. George Allen Grinde, A.B.

Alice Lulu Lee. Newton Deyoe Lee. Charles Oscar Lindstrom. John Mayhue Lund. Jacob Osmond Lunn. Vincent Bernard McCabe. Roscoe Conklin McCormick. B.S. Joseph Jay McGrory. Norman Edward Marion. Elsie Marie Martinson, M.D. Charles Everett Mayos. Frank Sherwood Meade. Whedon Worley Mercer. Carl Albert Meyer. Edward Michael Mikkelsen. Harry Clifford Miller, B.S. James Michael Moran. George William Morrow. Elam Turner Murphy, A.B., A.M. Frank Louis Nathanson. Frank Stewart Needham, M.D. Wilmer Young Neer. George Joseph Noger. Samuel Brown Norris. Louis Henry Nowack. Albert Charles Nussle. Sarah Conley O'Connell. David Mortimer Olkon, Lit.D., D.D.S., M.D. Romuald Othelo Ostrowski, R.Ph. Grover Cleveland Otrich. Jennie Winship Parks. Homer Coulson Parrish. Warren Frederick Pearce. Roland Hodge Phillips. LeRoy Calkins Potter. Timothy Charles Quigley, A.B. DeForrest Leslie Reese. George K. Rosenzweig.

John Arthur Haake. Adolph Hartung. Emery Roe Hayhurst, A.M. William Elias Hedges, A.B., M.D. Ernst Louis Hennig. Benjamin Franklin Hodsdon. William James Howard, Jr. Curtis Arthur Hunsaker. Charles James Skowr. Harry Jerome Smejkal, M.D. John Frank Spear. George Joseph Spencer. John Paul Stawicki. Harold Haines Steere. Louie Leo Steiner. Arthur Lemuel Stocks. George Wilson Strickland, A.B., Theodore Martin Wiersen. M.D.

J. Franklin Studebaker, A.B., Annie Wood. M.D. Martin Perigo Summers. John Ellsworth Taylor.

Dillard Estep Samuell. Maurice Wolfe Samuels. Charles Leopold Schmidt. Carl Oscar Schneider, Oph.D. John Cleveland Schroeder. Augustus William Schuessler. Ione Shultz. Carl Wilhelm Silverberg. Louis Jacob Simon. Victor Theis. Francis Peter Thometz, A.B. Harry Robert Thurber. George Willard Tucker. Grace Salome Von Stauffer. Evahn Russell Walker, M.S., M.D. James Henry Wallace. Gustav Wedel. William Williams. Eulalie Wood.

Charles Arthur Zeigler.

At the commencement of the School of Pharmacy, April 23, 1908, degrees were conferred as follows:

# Ph.G.

Fred Kramer Anderson. Harold Dudley Baldwin. Amar Nath Banerjee. Wayne Crawford Denson. Raleigh Earel. Bruce Carr Frantz. Auburn Seth Kisner. George Ferdinand Knick. Newman Kohn. Herbert Ernest Kraft. Henry August Langenhan. William Darrell Mottar. Alvrado Benson Owens. Adolph Vaclav Pavlicek.

Wyley Porter Williamson. Frank James Zuck. Frank Alexander Crawford, (Class of 'o6). Rudolph George Marzek, (Class of 'o6). Martin Schupmann, (Class of 'o6). Claude Enoch Tilton, (Class of 'o6). Karl Elliott Anderson, (Class of '07). Tisdale E. P. Furman,

(Class of '07).

James Patrick Renaud.
Charles George Sells.
Frank Edmund Shipman.
Roy Mont Soult.
Frank Bengal Stromer.
Rexford De Tompkins.
Steward Franklin Voss.
Stanley Ballenger Webster.

George Julius Langheim,
(Class of '07).
Frank John McCabe,
(Class of '07).
Henry Pfaff, Jr.,
(Class of '07).
Edwin Theodore Schumm,
(Class of '07).

At the commencement of the College of Dentistry, May 20, 1908, degrees were conferred as follows:

# D.D.S.

Carl Frederick Bandelin.
Frank Joseph Bernard.
Clyde Alvin Budworth.
William Theodore Burke.
Chester Walter Daye.
William Francis Earley.
Frederick Edward Ebert.
George Theodore Ehrlich.
Noah Z. Feldsher.
Jacob E. Green.
Hugh Hopkins.
Michael Francis Hough.
Harry Lysander Jones.
Francis LeRoy Joyce.
Henry Lyman Willcox.

Henry Joseph Kaufman.
Edward Frederic Klumb.
Harry Melvin Korshak.
James Andres Larsen.
Walter Theron Mitchell.
Francisco Ponce-y-Collantes.
Melvin E. Pontius.
Paul Harold Ramsey.
Reuben Alexius Stone.
Elmer Bovee Stoughton.
Edwin Paul Swatek.
Harry Carl von der Heydt.
Clyde Herbert Warner.
Maud Muriel Warner.

# SCHOLARSHIPS, HONORS AND COMMISSIONS

# HONORARY SCHOLARSHIPS

Clark, Cline, Menzo D., Martinsville. Washington, Witte, Hulda C., Pekin.

# COUNTY SCHOLARSHIPS

Harkness, Columbus L., Adams. Adams. Adams. Brownfield, Lelah, Champaign. Brackensiek, Jessie D., Quincy. Adams. Butler, Comfort S., Cairo. Alexander. McLean, Walter R., Bond. Coffeen. Bailey, Ernest H., Geneva. Boone, Schickedanz, Simon A., Pontiac. Boone. Malcolm, Howard S., Brown, Roseville. Hersman, Francis C., Hersman. Brown. Waddell, Charles A., Princeton. Bureau. Bureau. Knox, Samuel M., Jr., Sheffield. Manlius. Nelson, Saidee E., Bureau, Zearing, Louis A., Princeton. Bureau, Calhoun, Stone, Paul P., Lincoln. Calhoun, Bollman, Minnie J., Champaign. Bartells, Henry H., Camp Point. Calhoun. Carroll. Daehler, Albert H., Chadwick. Carroll. Naffziger, Oliver H., Dwight. Blohm, Lee R., Beardstown. Cass. Cass. Franken. Ewell G., Chandlerville. Mohlman, Floyd William, Beardstown. Cass. Leidendeker, Frank E., Urbana. Champaign, Champaign, Pearce, Ira, Champaign. Champaign, White, Florence L., Rantoul. Champaign, Heater, Elmer F., Champaign. Christian. Large, George P., Owaneco.

Savoy.

Chicago.

Christian,	Fizzell, Robert B.,	Taylorville.
Clark,	Carrithers, Ira T.,	Saunemin.
Clark,	Fishback, William M.,	Marshall.
Clark,	Hubbart, Curtis Clay,	Champaign.
Clark,	Hull, Walker F.,	Martinsville.
Clark,	Gordon, Willis O.,	Paris.
Clay,	Robinson, Willis S.,	Champaign.
Clay,	Doherty, R. E.,	Clay City.
Clinton,	Putnam, William J.,	Pana.
Clinton,	Boyer, Walter H.,	Carlyle.
Coles,	Byers, Frank M.,	Charleston.
Coles,	Stewart, Charles S.,	Charleston.
Coles,	Bouscher, Nelle G.,	Champaign.
1st Senatorial District,	Berolzheimer, Teresa Ruth	

Senatorial District, Ist Senatorial District. 2nd 3rd Senatorial District. 4th Senatorial District, Senatorial District. 4th Senatorial District. 5th 5th Senatorial District. 6th Senatorial District, 6th Senatorial District. 7th Senatorial District. 9th Senatorial District, Senatorial District, oth 11th Senatorial District, 11th Senatorial District. 13th Senatorial District, 15th Senatorial District, 15th Senatorial District, 19th Senatorial District, 21st Senatorial District. 21st Senatorial District, 23rd Senatorial District. 23rd Senatorial District, 25th Senatorial District, 25th Senatorial District. 29th Senatorial District, 20th Senatorial District. Cook.

Charleston. Champaign. Chicago Heights. Almy, William H., Sterling. Carper, John E., Buda. Hill, Harry S., Paxton. Clifford, Winnifred H., Champaign. Coleman, William F., Chicago. Weber, Emil A., Champaign. Dean, Harold C., Chicago. Hess, Lawrence J., Evanston. Kressman, Fred W., Chicago. Pettigrew, James Q., Harvey. Krueger, Ernest T., Chicago. Hanson, Herman L., Paxton. Underwood, Wilbert E., Austin. Brundage, Avery, Chicago. Weston, Frederick W., Chicago. Doherty, Mary G., LaGrange. Alverson, Maude L., Urbana. Cutler, Stanley G., Chicago. Tear, Herbert L., Chicago. Boynton, Napoleon H., Chicago. Hanson, Frank L., Austin. Fink, Erna M. E., Chicago. Van Petten, Robert M., Champaign. Hjort, Nels R., Chicago. Hill, Nathan R., Champaign.

Jordan, Myron K.,

Mauel, Leonard,

Cook, Crawford, Crawford, Crawford. Cumberland. Cumberland, Cumberland, DeKalb, DeKalb. DeKalb, DeWitt. DeWitt, DeWitt, DeWitt, Douglas, Douglas, Douglas, DuPage, DuPage, DuPage, Edgar, Edgar, Edgar, Edgar. Edwards. Effingham, Effingham, Effingham, Favette. Ford, Ford. Franklin, Franklin, Fulton, Fulton. Gallatin, Greene. Grundy. Hancock. Hancock. Henderson, Henry.

Froehlich, Milton H., Chicago. Bevis, Daily G., Newton. Hull, Anna L., Martinsville. Boon, Elvin E., Chrisman. Lord, Maurice F., Plano. Hill. Fanny W., Champaign. Fisher, Forest A., Greenup. Lund, James C., Paxton. Bardwell, Robert C., Aurora. Luney, Ellzey H., DeKalb. Matthews, Nellie P., Clinton. Holmquist, Fred N., Weldon. Marsh, Daniel, Weldon. Burwash, Arthur E., Savoy. Lewis, Lucy E., Danville. Hitch, Dorris N., Champaign. Wascher, Frederick M. W., Champaign. Greene, William B., Downers Grove. Thompson, George Brooks. Wheaton. Lewis, Goodrich O., Wheaton. Tucker, Jesse O., Champaign. Potter, Charles P., Hoopeston. Shirley, Orin E., Paris. Rogers, William T., Hume. Rice, Charles C., Bone Cap. Stair, Jacob L., Altamont. Poorman, Amy, Altamont. Jones, Bertha M., Champaign. Davis, Howard S., Vandalia. Laurence, Albert F., Paxton. Lindblom, Ernest F., Paxton. Tucker, Burton F., Anna. Livingston, Ray C., Mt. Vernon. Linton, Margie, Lewistown. Cogswell, George O., Champaign. Rowland, Claude K., Martinsville. Allen, George B., Roodhouse. Moss, Royal R., Morris. Preston, Frank D., Carthage. Baxter, Florence, Nauvoo. Baxter, Charles B., Nauvoo. Geneseo. Slaymaker, Charles M.,

Cummings, Preston W., Henry, Sheffield. Henry, Williams, Grace A., Galva. Henry, Swanson, Elder L., Paxton. Henry, Randall, Arthur E., Cambridge. Iroquois. Dillon, Lee A., Sheldon. Pierce, Donald A., Iroquois. Watseka. Green, Lee F., Iroquois, Gibson City. Jackson, Rollo, Ralph A., Murphysboro. Ramser, Charles E., Newton. Jasper, Jasper, Leslie, Elmer A., Tolono. Jasper, Barker, Raymond L., Newton. Mann, Mary Elizabeth, Jefferson, Gilman Jefferson, Maxey, Charles L., Mt. Vernon. Jersey, Roberts, Clarence G., Beardstown. Jo Daviess, Wright, Mary Eleanor, Dwight. Miller, John J., Kane. Geneva. Kane, Deuchler, Walter E., Aurora. Kane. Hildebrandt, Paul A., Carbentersville. Van Inwagen, Frank, Kankakee. Momence. Kankakee, Clarke, Carrie L., Momence. Park, Vance W., Kankakee. Champaign, Kankakee. Whittum, Fred H., Herscher. Kendall. Snook, Vera J., Ottawa. Shrader, Frank K., Knox. Knoxville. Knox, Sussex, Harry, Abingdon. Mansfield, Warren M., Abingdon. Knox. Gibson City. Haines, Arthur C., Lake. Lake, Van Duvn, Paul. Highland Park. Shute, Robert L., LaSalle. Ottawa. LaSalle. Watson, William S., Ottawa. Bushnell. Horace. Lawrence, Paxton. Redhed, William S., Lawrence. Tolono. Lawrence, Jasper, Edward M., Newton. Smith, Irwin W., Lee. Champaign. Miller, Edwin M., Geneva. Lee. Lee. James, Louise A., Ambov. Livingston, Hager, Earl N., Dwight. Moschel, Herman Pontiac. Livingston, Livingston, Foersterling, Fred I., Dwight. Howser, Theron R., Lincoln. Logan, Applegate, Annie M., Atlanta. Logan, Logan. Applegate, Vern, Atlanta.

Chester.

McDonough,	Terrill, Fred,	Colchester.
McDonough,	Burns, Ruth M.,	Macomb.
McHenry,	Stevens, Grace E.,	Marengo.
McHenry,	Hood, Joseph D.,	Chicago.
McLean,	Turk, Bella S.,	Litchfield.
Macon,	McLean, John C.,	Maroa.
Macon,	Hadley, Homer L.,	Maroa.
Macon,	Sterling, James D.,	Maroa.
Macon,	Purnell, Vern,	Champaign,
Macoupin,	Braley, Howard D.,	Virden.
Macoupin,	East, Warren E.,	Maroa.
Macoupin,	Wooters, Leland M.,	Carlinville,
Madison,	Lowry, Thomas G.,	Upper Alton.
Marion,	Gross, Meda F.,	Atwood
Mason,	Stevenson, Milton L.,	Mason City.
Mason,	Kreiling, Chris H.,	Forest City.
Mason,	Petrie, David,	Mason City.
Massac,	Brown, Edward W.,	Metropolis
Menard,	Hall, Ward Elmo,	LaMoille.
Menard,	Devine, Robert P.,	Chester
Menard,	Neff, Edna,	Petersburg
Mercer,	Lee, Charles Bopes,	Aledo
Mercer,	Simmons, John W.,	Keithsburg.
Montgomery,	Turk, Elkan,	Litchfield.
Montgomery,	Cratty, Estella F.,	Litchfield.
Moultrie,	Davidson, Dora,	Sullivan.
Moultrie,	Craig, Ollison,	Sullivan
Moultrie,	Peadro, Earl D.,	Sullivan
Ogle,	McRobie, Jessie B.,	Chicago.
Peoria,	Chichester, Emily,	Brimfield.
Peoria,	Engstrom, Charles L.,	Peoria.
Perry,	Bell, Charles M.,	Champaign.
Piatt,	Cline, Bessie F.,	Monticello.
Pike.	Blair, Alice L.,	Barry.
Pike,	Laughlin, Ely V.,	Pittsfield.
Pulaski,	Manock, Wilbur R.,	Farmer City.
Putnam,	Berolzheimer, Hannah	В.,
		hicago Heights.
Randolph,	Yehling, Albert C.	Sparta.
Randolph,	Zahn, Fred R.,	Chester.
Randolph,	Gerlach, Miriam,	Chester
Rock Island,	Sheriff, Ralph E.,	Reynolds

Rock Island. Rock Island. Rock Island, St. Clair, Saline. Saline. Saline. Sangamon. Schuyler, Scott. Scott, Scott. Shelby, Shelby, Shelby, Shelby, Stark, Stephenson, Tazewell. Tazewell, Tazewell, Union, Union. Union. Union. Vermilion, Vermilion. Wabash, Warren, Warren. Warren, Washington, Wayne, Wayne, Wayne, White. White, Whiteside, Whiteside. Whiteside. Whiteside, Will,

Dixon, Guy, Miller, Bert A., Hagedorn, Fred, McDonald, Lewis, Thompson, Samuel M., Henshaw, Amy, Morgan, Charles L., Chapin, William L., Weinberg, Nina M., Browning, Alta M., Smith Leslie A., Reeder, Claude H., Gregory, Lenna Mabel, Corrington, Cloyd E., Webber, Lois R., Tietje, Ralph E., Stewart, James S., Hunt, Agnes, Cook, Frank S., Hight, Eugene S., Turner, George W., Maze, Everet A., Clendenen, Paul M., Leonard, Myrl, Smith, Grace L., Porterfield, Nellie M., Ferris, Charles F., Foster, Joseph Kyle, Wickersham, Clarence E., White, Clarence W., Colvin, Albert A., Loutzenhiser, Ernest H., Hughes, Charles H., Pierce, Laura E., Jones, Walter R., Reeves, Harry P., Worsham, Walter B., Buyers, Archie S., Almy, Lloyd Huber, Abbott, Frances D., Hermann, Edgar. McCracken, Robert W.,

Ambia, Ind. Forrest. Rock Island. Brownstown. Harrisburg. Harrisburg. Champaign. Springfield. Rushville. Rushville. Champaign. Watseka. Moweagua. Moweagua. Shelbyville. Urbana. Toulon. Ridott. Mackinaw. Delavan. Virginia. Anna. Cairo. Anna. Anna. Fairmount. Danville. Mt. Carmel. Roseville. Lacon. Wheaton. Danwille. Fairmount. Gifford. Redmon. Carmi. Paris. Sterling. Sterling. Morrison. Sterling.

Plano.

Will,
Williamson,
Winnebago,
Winnebago,
Woodford,

Larson, William H.,
Oberdorfer, Henry D.,
Munger, Guy E.
Thayer, Henry S.,
Fruin, Mary C.,

Paxton.
Marion.
Rock Island.
Chicago.
El Paso.

# GENERAL ASSEMBLY SCHOLARSHIPS

(Nominated by members of the General Assembly)

			,
2nd	District,	Jacobson, Seymour A.,	Chicago.
6th	District,	Gates, Frank C.,	Chicago.
бth	District,	Knowles, Charles H.,	Chicago.
7th	District,	Myers, Arthur L.,	Harvey.
8th	District,	Rosencrans, Fred B.,	Waukegan.
8th	District,	Beck, Herbert C.,	Harvard.
8th	District,	Jones, Edward W.	Ravinia.
9th	District,	Westlund, Albert F.,	Chicago.
10th	District,	Swits, Francis H.,	Rockford.
10th	District,	Robinson, Kendall E.,	Rockford.
12th	District,	Arnold, Charles,	Galena.
13th	District,	Penn, Henry,	Chicago.
13th	District,	Way, Clyde,	Chicago.
13th	District,	Aleshire, Merlin C.,	Chicago.
14th	District,	Muschler, Henry C. W.,	Aurora.
14th	District,	Bardwell, Richard W.,	Aurora.
16th	District,	Righter, Edwin B.,	Saunemin.
16th	District,	Burns, Cyril Agard,	Fairbury.
16th	District,	Wells, Ralph R.,	Wenona.
16th	District,	Wilcox, George E.,	Minonk.
16th	District,	DeButts, Cary,	Pontiac.
18th	District,	Cullings, Ross E.,	Elmwood.
18th	District,	Christensen, Camillo C.,	Peoria.
20th	District,	Whittum, Samuel H.,	Herscher.
22nd	District,	Jeter, George G.,	Paris.
22nd	District,	Burton, Earl K.,	Isabel.
22nd	District,	Thompson, Milton W.,	Danville.
24th	District,	Rugg, Daniel M.,	Champaign.
24th	District,	Hinman, Lawrence D.,	Champaign.
24th	District,	O'Beirne, William F.,	Tolono.
26th	District,	Speedie, William W.,	Gibson City.
26th	District,	Lundahl, Raymond R.,	Gibson City.

26th	District,	Nielsen, Gordon F.,	Paxton.
28th	District,	Foley, John Warner,	Clinton.
28th	District,	Mangas, Lyman S.,	Lincoln.
30th	District,	Weinberg, Margaret,	Rushville.
32nd	District,	Miles, Lois M.,	Bushnell.
32nd	District,	Rogers, Anna Sophie,	Bushnell.
33rd	District,	Nelson, James R.,	Moline.
33rd	District,	Graham, Paul J.,	Aledo.
34th	District,	McIntyre, James V.,	Newman.
35th	District,	Miller, William C.,	Sycamore.
36th	District,	Bornmann, John H., Jr.,	Quincy.
	District,	Kaar, Walter J.,	Princeton.
37th	District,	Mason. Mayne S.,	Buda.
	District,	Flatt, Harrison O.,	Carrollton.
38th	District,	Brown, Ralph Edgar,	Hillsboro.
38th	District,	Fletcher, Elizabeth B.,	Bunker Hill.
38th	District,	Mosby, Ben H.,	Carlinville.
39th	District,	Sumberg, Abraham,	Utica.
40th	District,	Overmier, Melvern D.,	Mt. Auburn.
40th	District,	Barth, George A. C.,	Pana.
40th	District,	Anderson, Charles T.,	Taylorville.
40th	District,	Tate, Harry L.,	Vandalia.
4Ist	District,	Prout, Harold B.,	Wheaton.
41st	District,	Welden, Edmund A.,	Wheaton.
42nd	District,	Mautz, Charlie B.,	Watson.
42nd	District,	Gaston, Omar,	Kell.
42nd	District,	Stephenson, Roger A.,	Carlyle.
42nd	District,	McGinnis, Archibald,	Effingham.
44th	District,	Brands, Edgar G., Prair	ie du Rocher.
45th	District,	Alexander, James G.,	Jacksonville.
47th	District,	Eisenmayer, Arthur W., J	r.,
			Granite City.
47th	District,	Griffith, Rolland W.,	Granite City.
50th	District,	Hudelson, Charles L.,	Benton.
50th	District,	Benson, Joe P.,	Herrin.
51st	District,	Myers, Jacob W.,	Harrisburg.

# AGRICULTURAL SCHOLARSHIPS

Adams, Adams, Alexander,

Madison, Lawrence C.. Shupe, Chester B., Bunch, Joseph R.,

Quincy. Paloma. McClure. Alexander. Bond, Boone, Brown. Brown, Bureau, Calhoun, Calhoun. Carroll, Carroll, Cass, Champaign, Champaign, Christian, Christian, Clark, Clark, Clay, Clinton, Coles. Coles. 1st Cong. District, 1st Cong. District, 2d Cong. District, 2d Cong. District, 3d Cong. District, 3d Cong. District, 4th Cong. District, 5th Cong. District, 5th Cong. District, 6th Cong. District, 6th Cong. District, 7th Cong. District, 8th Cong. District, 8th Cong. District, 8th Cong. District, 9th Cong. District, oth Cong. District, 10th Cong. District, Crawford. Cumberland. DeKalb.

Genung, Elisha N., Abrams, Samuel. O'Donnell, Hugh, Harris, Norris D., Rigg, Clinton B., Burnett, Fred W., Keller, Roy H. L., Love, Howard F., Burke, Ira H., Lockwood, C. M., Gridley, Howard M., Smith, Howard A., Potter, John W., Kincaid, Albert Rex. Krieger, Augustus E., LeSure, Charles S., Gebhart, Elmer F., Meisenhelter, Ray W., McNutt, Ray J., Bond, George T., McDougle, Charles, Barber, Luther H., Shearer, Andrew W., Stewart, Myron B., Leonard, Harold R., Waldie, James R. R., Sawtell, William A., Polkowski, Harry, Wray, Robert C., Sturgeon, Alfred H., Gatzert, Nathan E., Grannis, Frank C., Rand, Walter A., Griffith, Leland S., Langan, John J., Hoffman, Paul A., Mason, Ralph G.. Gunderson, Alfred J., Flanders, Paul A., Condrey, Chase L., Wakeley, Leslie M., Baird, John Henry,

Rantoul. Urbana. Belvidere. Loraine. Mt. Sterling. Longview. Quincy. Sidnev. Golden. Stonington. Virginia. Urbana. Champaign. Taylorville. Stonington. Olney. Stonington. Rosemond. Charleston. Charleston. Charleston. Chicago. Henry. Englewood. Chicago. Chicago. Chicago. Chicago. Quincy. LaGrange. Chicago. Chicago. Chicago. McNabb. Kankakee. Chicago. Downers Grove. Chicago. Glencoe.

Palestine.

Harvard.

DeKalb.

DeKalb, DeKalb. DeWitt. DeWitt. Douglas, Douglas, DuPage. DuPage, Edgar, Edgar. Edwards, Edwards. Effingham, Fayette, Ford, Ford, Franklin, Franklin, Fulton, Fulton, Gallatin. Gallatin, Greene, Greene, Grundy, Grundy, Hamilton, Hancock. McHenry, McHenry. McLean, Macon Macon Macoupin, Macoupin, Madison. Madison. Marion. Marion, Marshall, Marshall. Mason.

Stabler, James W., Masley, Jacob, Dalbey, Will Edward, Ruehe, Harrison A., Voorhees, Lucien W., Ewing, George E., Fischer, Arvin W., Barrett, George S., Trotter, Clinton P., Smittkamp, Chester A., Rice, Ernest A., Rohrer, Carl J., Pratt, Lucian. Depler, Dean, Arends, Fred G., Brown, Ferrel M., Lumbrick, Arthur, Gilman, George A., Waggoner, Edwin H., Negley, Laurel A., Eminger, Evan B., Turner, Emery A., Meek, Alva B., Wiekert, Ricus, Trotter, William L., Happer, James Harrison, Edwards, George G., Hedgcock, William E., Gilkerson, Harry C., Cash, Harold S., Huff, Ralph T., Rucker, Melvin B., Fombelle, Just S., Vaniman, Vernon, Allyn, Orr. Thompson, Elmer J., Eaton, Edward F., Whitchurch, John E., Henderson, David H., Ball, Jonas H., Turner, Ernest D., Cress, James W.,

Neponset. Shermerville. Taylorville. Waukegan. Blue Island. Arcola. Bensenville. Lewistown. Kansas. Paris. Bone Gab. Canton. Avon. Lewistown. Melvin. Robinson. Charleston. Harristown. Lewistown. Cuba. Gibson City. Wenona. Carrollton. Emden. Coal City. Farmington. McLeansboro. Plymouth. Marengo. Harvard. Lexington. Decatur. Decatur. Virden. Modesto. Nameoki. Worden. Salem. Holcomb. Toluca. Wenona. Hillsboro.

Massac,
Menard,
Menard,
Mercer,
Monroe,
Monroe,
Montgomery,
Morgan,
Morgan,
Morgan,
Moultrie,
Moultrie,
Ogle,
Ogle, Ogle,
Peoria,
Peoria,
Peoria,
Peoria,
Perry,
Perry,
Piatt,
Piatt,
Piatt,
Pike,
Pike,
Pope,
Hancock,
Hardin,
Henderson.
Henderson,
Henderson,
Henry,
Henry,
Iroquis,
Iroquis.
Jackson,
Jackson,
Jasper,
Jasper.
Jefferson,
Jersey,
Jersey,

Challacombe, Harvey E., Challacombe. Kincaid, John K., Athens. Athens. Swingle, Earl H., Lee, Otis H., Hamlet. Railsback, Fay D., Normal. Fullenwider, Wilfred T., Mechanicsburg. Baker, Pearl Ransom, Irving. Smith, Theodore M., Auburn. Ellsberry, Lloyd K., Mason City. Robinson, Carroll R., Prentice. Chipps, Earl C., Sullivan. Freeland, Chesley B., Dalton City. Hussey, Stephen S., Princeton. Hickey, Joseph E., Stillman Vallev. Atwood, Paul W., Lewistown. Meeker, Maurice S., Peoria. Tracy, Perry A., Princeville. Constant, Clarence R., Williamsville. Growden, Arthur F., Carbondale. Jackson, Chester H., Jov. Burwash, Milo E., Champaign. Howell, Fred W., Champaign. Davies, Edmund C., Bement. Foreman, Alvin Claude, Pittsfield. Doyle, Herbert F., Sparland. Wenona. Turner, Arthur L., Teesdale, Hugh T., Pontoosuc. Rogers, Clarence A., Wyoming. Stewart, Harold W., Hebron. Plymouth. King, Bruce A., Peasley, John H., Stronghurst. Kipp, Karl P., Annawan. Tracy, Glenn K., Osco. Caveney, Frank M., Crescent City. Rein, Fritz, Gilman. Davis, Thomas G., De Soto. Lobdell, John R., Carbondale. Seymour, Robert R., Henning. Elliot, James M., Chebanse. Riggs, Ray Vere, Jerseyville. Drew, Joseph Allen, Watseka. Rives, Oakley B., Rock Bridge.

Jersey, Jo Daviess, Johnson, Johnson, Kane. Kane. Kankakee. Kankakee. Kankakee, Kendall, Kendall. Kendall. Knox, Knox. LaSalle, Lawrence. Lee. Livingston, Livingston, Logan, Logan, Logan, McDonough, McDonough, McDonough, Putnam. Putnam. Putnam, Randolph, Rock Island, St. Clair. St. Clair, Saline, Sangamon, Sangamon, Sangamon, Schuyler, Schuyler, Scott. Scott. Shelby,

Shelby,

Daniels, Louis W., Hart, William E., Simpson, Francis M., Galeener, William K., Balis, William H., Bean, Earl G., Risser, Ralph G., Snyder, Logan A., Fellows, James P., Seely, John G., Cutter, Watts C., Boger, Henry H., Briggs, Strother A., Judson, Howard M., Bassett, Clifton H., Esmond, Oakley W., Murphy, William E., Stanford, Howard R., Murphy, John D., Applegate, Arthur L., Tilson, Delbert M., Miller, Charles M., Walker, Ernest D., Miner, Paul I., Jones, Ebon C., Mills, Clifford P., Millar, William H., Durley, Williamson M., Acom, William H., Moburg, Cornelius F., Harmon, Murvin T., Harmon, Raymond W., Berthold, Lewis R., Stout, John P., Christopher, Carl, Stout, Frank L., Patton. Matthew C., Teel, Charles H., Van Duyn, Charles A., Woodrow, Richard L., White. Frank. Corzine, Leslie C.,

Jerseyville. Brighton. Vienna. Vienna. St. Charles. Hampshire. Kankakee. Kankakee. Kankakee. Oswego. Oswego. Aurora. Minier. Galesburg. LaSalle. Ottawa. Odell. Chatsworth. Odell. Atlanta. Williamsville. Atlanta. Tennessee. Adair. Bloomington. McNabb. Selbytown. Hennepin. Lake City. Cameron. Lebanon. Lebanon. Aurora. Glenarm. Auburn. Glenarm. Divernon. Rushville. Pawnee. Green Valley. Shelbyville. Assumption.

Urbana.

Rantoul.

Urbana.

Harvey.

Chicago.

Shelby, Stark, Stephenson, Stephenson, Tazewell, Tazewell, Union, Vermilion, Vermilion, Wabash, Wabash. Warren, Warren, Washington, Wayne, White, Whiteside, Whiteside, Will, Will. Williamson, Winnebago, Woodford,

Woodford.

Swanson, Sven G., Potomac. Brown, Jesse L., Wyoming. Hunt, Elmer L., Henry. Holmes, Oliver Wendell, Lena. Jenkins, George E., Delavan. Ryan, William E., Delavan. Jacobson, Herluf, Liberty. Seymour, Walter A., Henning. Green, Roy Ezra, Oakwood. Corrie, James R., St. Francisville. Klett, Howard Charles, Plainfield. Hall, Ward Everett, Monmouth. Reed, James Boone, Kirkwood. Farmingdale. Cooper, Mark A., Griffin, Russell S., Fairfield. Sterenberg, John F., Fulton. Abbott, Bayard T., Morrison. Reed, Charles F., Sterling. Woodworth, Harry C., Chicago. Boughton, David W., Plainfield. Hedges, Guy O., Washington. Conklin, James H., Rockton. Eureka. Ball, Roscoe L., Brasfield, Bryant L., Eureka.

# SCHOLARSHIPS IN HOUSEHOLD SCIENCE

Montgomery, Harriett Eleanor, Quincy. Adams. Hussey, Edith H., Bureau. Princeton. Pervier, Mabel I., Bureau, Sheffield. Carroll, Mackay, Zella G., Mt. Carroll. Carroll, Strauch, Bertha, Chadwick. Nuckolls, Mary E., Champaign, Genung, Ivaloo, Champaign, Bush, Julia F., Champaign, Logan, Grace B., Christian, Edinburg. Kirk, Ethel C., Christian, Taylorville. Coles. Harrison, Florence, Danville. Coles, Benefiel, Eva M., Mattoon. 1st Cong. District, Burns, Mabel B., Princeton. 2d Cong. District. Pease, Elva M., 2d Cong. District. Horine, Ona L.,

7th Cong. District, oth Cong. District, 10th Cong. District, 10th Cong. District, Douglas, Douglas, Ford. Ford. Ford. Fulton. Greene. Henderson, Henry, Iroquois, Iroquois, Jo Daviess, Kane. Kendall. Knox. Lee, Livingston, Livingston, McDonough, McHenry, McLean, Macon, Macon, Marion, Marshall. Mercer. Peoria, Piatt. Piatt, Putnam, Rock Island, Sangamon, Stephenson, Stephenson, Stephenson, Vermilion, Will, Will,

McConoughey, Mabel M., Chicago. Herdman, Margaret M., Winnetka. Thurston, Lena M., Winnetka. Smith, Mabel C., Rogers Park. DeWitt, Emma E., Broadlands. Bunch, Mamie, Arcola. Dillon, Bessie, Normal. Mandeville, Hazel D., Champaign. Langford, Jessie L., Paxton. Waughtel, Mrs. Nellie E., Cuba. Haven, Mabel H., Greenfield. Glasgow. Ruth. Tennessee. Cole, Mary I., Geneseo. Matthews, Martha M., Onarga. Nation, Maggie Eloise, Chebanse. Hunt, Ada E., Ridott. Harley, Mildred E., Aurora. Waddell, Mary L., Princeton. Rambo, Jessie E., Maquon. Leake. Mabel E., Amboy. Pontiac. Holland, Leila, Swanberg, Pearl, Paxton. Glasgow, Grace, Tennessee. Renich, Katherine L., Woodstock. Berg, Hazel H., Bloomington. Kirk, Elizabeth, Decatur. Krigbaum, Helen C., Decatur. Kalkbrenner, Myrtle C. L., Centralia. Bass, Florence E., Princeton. Morgan, Alta H., Aledo. Case, Lura M., Alta. Gere. Hazel H.. Urbana. McClurg, Nellie I., Urbana. Broaddus, Elizabeth M., Urbana. Bracker, Mabel, Hillsdale. Summer, Lela, Auburn. Shannon, Agnes N., Freeport. Eells, Zelma L., Freeport. Tanner, Florence M., Aurora. Urbana. Bengston, Pearl E., Garrett, Leona B.. Momence. Sprague, Villa M., Lockbort. 506

# University of Illinois

[1908-09

Winnebago, Woodford, Taylor, Gertrude, Dickinson, Nell M.,

Aurora. Eureka.

# SCHOLARSHIPS IN CERAMICS

Champaign, Champaign, Cook, Sangamon, Garland, Frank D., Wilkins, Raymond H., Smith, Raymond R., Stuart, Earl K., Champaign.
Champaign.
Chicago.
Springfield.

# CERTIFICATES OF QUALIFICATION TO TEACH SUBJECTS NAMED

Edwina Eunice Abbott, French.

Nellie Matilda Bredehoft, English and German.

Hazle Katherine Cooper, Mathematics.

Lloyd Slote Dancey, A.B., 1907, Mathematics and Physics.

Nellie Mildred Porterfield, English.

#### UNIVERSITY HONORS

Honors were awarded by the Faculty for scholarship in 1907-08 as follows:

#### COLLEGE OF LITERATURE AND ARTS

#### PRELIMINARY HONORS

Hannah Beulah Berolz- Owen Earle Pence.

heimer.

Wilbur L Buchanan. George William Schoeffel. Agnes Bouton Cooper. John Raymond Shulters. Obed Lewis Herndon. Grace Esther Stevens.

Stella Pauline Kleinbeck.

Lois Maia Miles.

Elkan Turk. Florence Leone White.

Grace Alice Williams

#### FINAL HONORS

Fred Parker Benjamin. George Merit Palmer. Florence Louise Brundage, Minnie Leonora Parker, Ethel May Bushnell. Irene Mary Parsons.

Mary Gertrude Doherty. Winifred Almina Perry. Ruth Kelso.

Nellie Mildred Porterfield.

Hiram Thompson Scovill.

#### SPECIAL HONORS

Mary Gertrude Doherty, in History.

#### COLLEGE OF SCIENCE

#### PRELIMINARY HONORS

John Henry Bornmann, Jr. Nehemiah William Hill. Joseph Douglas Hood. Frank Caleb Gates. Claude Wagner.

#### FINAL HONORS

Robert Douglass Glasgow. Jessie Eulalia Rambo. Alfred Otto Gross. Carlon Ten Broeck. Drury Lee Weatherhead.

#### SPECIAL HONORS

Robert Douglass Glasgow, Alfred Otto Gross, in Entomology. in Zoölogy. Drury Lee Weatherhead, in Chemistry.

#### COLLEGE OF ENGINEERING

PRELIMINARY HONORS

Architectural Engineering-James Verney Richards.

Civil Engineering—

Charles Manley Bell. Max Arnold Berns. James Thomas Hanley. Marcus Sanders McCollis-

Harold Brother Anderson. Lee Allen McElhinev. Wilbur Roy Manock. William Atkinson North. Charles Eden Beveridge. Henry Penn. Walter Edward Deuchler. Eugene Strode Pennebaker. Peter Wolff Seiter.

> ter. Seymour Standish. Frederick William Weston.

Electrical Engineering-

Henry Morgan Brooks. Eugene Leslie Burbidge. Edgar Dwight Doyle. Eugene Stuart Hight. Ludwig Kummer.

Mechanical Engineering-

Ira Blair Altekruse. George Bergen Bashen. Fred Madison Poe. Laurence Richard Gulley.

Donald Alfred Pierce. William Fred Schaller. Frank K Schrader. Orin Earl Shirley. Henry Spafford Thaver.

Herman Moschel. Stephen Gaskell Wood.

Municipal and Sanitary Engineering-Charles Ludwig Engstrom.

FINAL HONORS

Architecture-Robert James Love. Civil Engineering-

Byron Kemp Coghlan. Harrison Frederick Gonnerman.
Stanley Gardner Cutler. Lewis McDonald.

Raymond Clark Pierce.

Electrical Engineering-

Ralph Emerson Deets. Daniel Cleveland Faber.

Ingo Charles Nitz.

Mechanical Engineering-

Archie Stanton Buyers. Charles Stephen Pillsbury.

Frank Van Inwagen.

Railway Engineering-

George Emile Jacquet.

#### SPECIAL HONORS

Stanley Garden Cutler, Robert James Love, in Civil Engineering. in Architecture. Charles Stephen Pillsbury, in Mechanical Engineering.

# COLLEGE OF AGRICULTURE

#### PRELIMINARY HONORS

William Henry Balis. Walter Kunz.
Arvin William Fischer. Albert Butler Sawyer.
Roy Herman Lewis Keeler. Charles Augustus Van Duyn.

Ernest Dewitt Walker.

#### FINAL HONORS

Florence Harrison.

Howard Russell Stanford. Robert Louis Latzer. Earle Archibald White.

# SCHOOL OF LIBRARY SCIENCE

FINAL HONORS

Margaret Hutchins, A.B., Smith College, 1906.

#### COLLEGE OF LAW

FINAL HONORS

Ray Frank Feagans. Roy Hanlin Brown. Leverett Chase Westervelt.

# COMMISSIONS AS BREVET CAPTAINS, ILLINOIS NA-TIONAL GUARD, ISSUED BY THE GOVERNOR IN 1908

George Chauncey Olmsted, Frank Louis Cook, William Henry Schulzke, Ingo Charles Nitz, Frank Milton Byers, Howard Chandler Williams, Viron Joseph Boothe, Washington Warren Parker, Herbert Edward Kahlert, Emil August Weber, Albert Phillip Hueckel, David John Grant, Gerard Leonard Fossland, Elmer Otis Furrow, Burton Floyd Tucker, Robert Douglass Glasgow, George Fritz Way.

Reported to the Adjutant General, United States Army, as distinguished Cadets, for the purpose of having their names published in the Register of the United States Army: George Chauncey Olmsted, Frank Louis Cook, Ingo Charles Nitz.

# ROSTER OF OFFICERS AND NON-COMMISSIONED OF-FICERS OF THE UNIVERSITY CORPS OF CADETS IN 1908-09

ield and Staff—
Colonel
Lieutenant Colonel
Major 1st Battalion
Major 2d Battalion
Major 3d Battalion
Captain and Adjutant
Battalion Adjutant (1st B.) (1st Lieut)L. G. Jones
Battalion Adjutant (2d B.) (1st Lieut.)
Battalion Adjutant (3d B.) (1st Lieut.)E. K. Stuart
Sergeant MajorF. G. Zillmer
Chief Trumpeter
Drum Major
Sergeant Major (1st B.)L. F. Zerbee
Sergeant Major (2d B.)E. F. Blakeslee
Sergeant Major (3d B.)O. F. Schulzke
Color Sergeant
Color Sergeant
Company "A" 1st B — Captain I. H. Almy: First Lieutenant C. A.

Company "A", 1st B.—Captain, L. H. Almy; First Lieutenant, Van Duyn; Second Lieutenant, G. Q. Lewis; First Sergeant, F. L. Stout; Sergeants, W. A. Sawtell, S. W. Cleave, R. W. Dickenson, E. F. Slavik.

- Company "B", 1st B.—Captain C. C. Hubbart; First Lieutentant, W. E. McKeever; Second Lieutenant, D. C. Patton; First Sergeant, A. M. Saxe; Sergeants, J. P. Fellows, F. D. Larkin, H. R. Helmle, A. J. Postel.
- Company "C", 1st B.—Captain, R. G. Clinite; First Lieutenant, E. Turk; Second Lieutenant, H. D. Easterbrook; First Sergeant, S. A. Schickedanz; Sergeants, C. E. Olmstead, A. S. Karkow, E. A. Herrcke, F. Rein.
- Company "D", 1st B.—Captain, ———; First Lieutenant, M. B. Stewart; Second Lieutenant, ——; First Sergeant, F. L. Haines; Sergeants, C. M. Ricketts, E. F. Heater, W. O. Rife.
- Company "E", 1st B.—Captain, J. K. Kincaid; First Lieutenant, H. C. Ackemann; Second Lieutenant, W. R. Manock; First Sergeant, F. L. Lindblom; Sergeants, E. C. Davies, H. Lloyd, H. O'Donnell, J. K. Boden.
- Company "A", 2d B.—Captain, F. H. Lindley; First Lieutenant, V. B. Fredenhagen; Second Lieutenant, F. D. Preston; First Sergeant, H. H. Bartells; Sergeants, R. F. Herndon, A. H. Juergens, R. T. Jones, C. Solfisburg.
- Company "B", 2d B.—Captain, R. H. Riesche; First Lieutenant, E. S. Hight; Second Lieutenant, M. A. Berns; First Sergeant, P. W. Swern; Sergeants, E. S. Peterson, E. P. Kealey, O. Kline, C. T. Trimble.
- Company "C", 2d B.—Captain, J. H. Sonntag; First Lieutenant, F. W. Weston; Second Lieutenant, R. A. Anderson; First Sergeant, R. R. Moss; Sergeants, J. Zetek, H. G. Bandy, W. Turner, J. W. Myers.
- Company "D", 2d B.—Captain, R. A. Collins; First Lieutenant, W. W. Day; Second Lieutenant, C. E. Erickson; First Sergeant, H. C. Swannell; Sergeants, E. D. Turner, O. H. Lee, O. W. R. Wanderer, F. M. Cockrell.
- Company "E", 2d B.—Captain, F. F. Beeby; First Lieutenant, J. D. Hood; Second Lieutenant, G. F. Onken; First Sergeant, G. M. Fisher; Sergeants, M. S. Mason, A. E. Randall, R. L. Slosson.
- Company "A", 3d B.—Captain, K. H. Talbot; First Lieutenant, C. I. Hall; Second Lieutenant, T. K. Enger; First Sergeant, H. M. Francis; Sergeants, M. C. Aleshire, A. B. Dunham, W. R. Biebel, E. F. Motsinger.
- Company "B", 3d B.—Captain, F. White; First Lieutenant, A. G. Hughes; Second Lieutenant, F. R. Tate; First Sergeant, A. C. White; Sergeants, D. R. Palmquist, A. W. Wheeler, J. W. Steingard, J. T. Russell.

- Company "C', 3d B.—Captain, J. J. Walledom; First Lieutenant, A. L. Tull; Second Lieutenant, O. E. Pence; First Sergeant, L. V. McCabe; Sergeants, O. A. Fisher, G. H. Mueller, A. L. Enger, S. G. Martin.
- Company "D", 3d B.—Captain, H. F. Anderson; First Lieutenant, E. W. Lyon; Second Lieutenant, A. C. Stadler; First Sergeant, M. Thomas; Sergeants, E. M. Benton, J. A. Scanlan, E. L. Johnson, R. E. Tietje.
- Company "E", 3d B.—Captain, H. E. Ashdown; First Lieutenant, E. Cornwell; Second Lieutenant, A. E. J. Wanderer; First Sergeant, E. M. Watkins; Sergeants, A. McGinnis, E. D. Allen, L. V. Burton, H. H. Case.
- Battery—First Lieutenant, A. O. Dady, commanding; First Lieutenant, A. Thomson; Second Lieutenant, T. Hoskins; First Sergeant, W. R. Camp; Gunners, N. M. Dixon, E. O. Korsmo, L. M. Wenter.
- Signal Company—Captain, E. V. Lawrence; First Lieutenant, E. D. Doyle; Second Lieutenant, M. E. Thompson; First Sergeant, J. D. Frazee; Sergeants, R. E. Weeks, D. L. Smith, R. Arnold, T. W. Walton.
- Headquarters Detachment—Trumpeters, H. J. Paul, H. W. Stewart, A. E. Rathbun, F. W. Baum, W. O. Coultas, E. C. Zimmerman. Cadet Private, T. L. Kelley.

# WINNING ORGANIZATIONS, 1908—ANNUAL COMPETITIVE DRILL

#### \* INDIVIDUALS

University Gold Medal
Cadet First Sergeant C. D. Black
Hazelton Gold Medal
Cadet Private E. D. Turner

# ARTILLERY

University Bronze Medals

Second Lieutenant, A. O. Dady Cadet Private, M. Bloomfield Gunner, T. Hoskins Cadet Private, F. Gibbs
Cadet Private, E. M. Miller Cadet Private, W. J. Hughes
Cadet Private, W. Lord Cadet Private, R. C. Livingston
Cadet Private, E. A. Stroud

#### **INFANTRY**

University Bronze Medals

# COMPANY COMPETITIVE, 1908

Company "A", University Regiment
Captain V. J. Boothe

First Lieutenant, J. P. Stout Second Lieutenant, L. H. Almy First Sergeant, Myron B. Stewart

#### SERGEANTS

R. A. Anderson, R. J. Bannon, G. G. Lewis, C. A. VanDuyn.

#### CORPORALS

R. D. Clow, W. E. East, A. T. Hussey, A. L. Johnstone, E. Juergens, W. F. Kunz.

#### LANCE CORPORALS

C. E. Caldwell, S. W. Cleave, R. W. Dickenson, H. O'Donnell, F. L. Stout, F. G. Zillmer.

#### PRIVATES

Clark, R. W. Duncan, L. W. Goodall, J. W. Hudelson, C. L. Hopkins, R. E. Koestner, W. Mottier, C. H. North, W. A. Osburn, O. L. Park, V. W. Scott, L. W. Shirley, O. E. Sisson, F. P. Standish, S. Baker, G. W. Briggs, E. L. Bernstein, L. Black, R. Q. Cash, H. S. Clarke, H. H.

Dalenberg, P. Daniels, L. W. Dayton, C. H. Doty, W. S. Gumaer, P. W. Guild, F. E. Helmle, H. R. Karr, H. W. Karch, A. Lutton, C. E. Mallory, M. Meisenhelter, R. W. Munroe, F. R. Mench, J. G. Miller, C. M. Morgan, C. L. O'Donnell, F. M. Orosa, V. Portis, N. Reed, C. O.

Rice, E. A. Rigg, C. Sachsel, O. R. Smith, P. A. Snow, C. H.
Taylor, R. A.
Tobey, H. E.
Watkins, E. M.
Willmore, C. C.

# SIGNAL COMPANY

University Bronze Medals

First Sergeant J. F. Treakle Private Johnston, E. E. Sergeant E. D. Doyle Private Koerper, H. W. Corporal H. Moschel Private Littleton, A. C. Corporal R. R. Smith Private Lyman, H. P. Private Brown, R. E. Private Nourse, F. M. Private Elfman, W. H. Private Overmier, M. D. Private Groener, E. G. Private Schoeffel, C. M. Private Jackson, R. N. Private Shirk, W. A.

Private Speedie, W. W.

# RIFLE COMPETITION

University Bronze Medals Company "K" Team

First Sergeant, W. E. Mc-Private Altekruse, I. B. Keever. Private Hutson, S. F. Corporal, J. D. Hood Private Strom, J.

# APPENDIX THE ACADEMY



# THE ACADEMY

#### **FACULTY**

CHARLES MAXWELL McCONN, A.M., Acting Principal

In English-

CELIA ANNE DREW, Ph.B., English Literature GEORGE MERIT PALMER, A.B., English Literature and Rhetoric Ava D. Steele, A.M., English Literature and Rhetoric

In Mathematics-

ALVA JAY HILL, A.B., Algebra and Geometry Charles Manfred Thompson, Algrebra and Geometry Adolph Gore, A.M., Algebra and Geometry

In Foreign Language-

Frank Waters Thomas, A.B., Latin and Greek Margaret Annie Scott, French and German

In History-

HARRY THOMAS NIGHTINGALE, Ph.B., English and American History, and Civics

FRED CROSBY KEELER, A.B., Greek, Roman, and Mediaeval and Modern History

In Science-

CLAUDE WILLIAMSON SANDIFUR, A.B., Physics John Philo Gilbert, A.M., Biology

# THE PURPOSE OF THE ACADEMY

The Academy of the University of Illinois is a school maintained by the University to prepare students for entrance to its various colleges, especially such students as do not have access to the other secondary schools of the state.

It exists to meet the needs of the following classes:

- (1) Students from rural districts who have no high school opportunity at home;
- (2) Students whose high school at home offers a course of but two or three years;
- (3) Students who have been delayed in their education and are unwilling to return to the high school to prepare for college.

The school has no desire to attract students from towns that support good high schools.

#### SPECIAL ADVANTAGES

Because of its special purpose and its close relationship with the University, the Academy offers to students who must go away from home to prepare for college peculiar advantages.

- (1) The course of study includes only those subjects which may be offered for entrance; students are not required to take any course that will not count for admission to the college which they wish to enter.
- (2) No fixed time is set for the completion of the course, and when a student reaches the point where all of his time is not required to finish his work in the Academy, he is permitted to take up subjects belonging to his college course. In this way valuable time is often saved.
- (3) It is of no little advantage to a student that while he is preparing for college he may at the same time be learning much about the various departments of the University and what they offer. When he is ready to enter upon his college work, he is in a much better position to know definitely what course he wishes to pursue.
- (4) Finally, Academy students enjoy all the general advantages of the University community. They are entitled to free use of the University library and gymnasiums, and have an opportunity to hear the lecturers and musicians that visit the University from time to time.

For information in regard to the special opportunity afforded to students of advanced age who have been out of school, and in regard to combining Academy work with elementary University courses in Agriculture, Engineering, Household Science, and Music, apply to the Principal.

#### ADMISSION

#### FROM GRADED SCHOOLS

Graduates of the eighth grade of city public schools, or of graded county schools, will be admitted to the Academy without examination on the presentation of a diploma or certificate of graduation. Other applicants must pass examinations in arithmetic, grammar, and American history.

#### FROM ACCREDITED AND CORRELATED HIGH SCHOOLS

Students who come from accredited schools of the University, or from smaller high schools with which agreements for correlation have been made, will be admitted to advanced standing, receiving full credit for work already done. Blanks for reports from the principals of such schools will be sent upon application.

#### FROM UNACCREDITED HIGH SCHOOLS

Students who have been in attendance at other than accredited schools will be admitted on presenting a certificate showing the kind, amount, and grade of work already completed. A blank form for this statement will be sent on application. Upon the basis of this statement, the student will be assigned to such classes as he seems prepared for. At the end of the first semester, if the student's work has been satisfactory, the credits from the former school will be accepted in those subjects that have been continued in the Academy. For advanced credit in other subjects examinations must be passed. Those who wish to take examinations for advanced credit in physics, chemistry, botany, or zoology must present a note-book.

#### STUDENTS OF ADVANCED AGE

With students over eighteen years of age who do not come under any one of the three classes described above, special arrangements for admission will be made upon application to the Principal.

#### TIME OF ENTERING—EXAMINATIONS

The Academy course is so arranged that students may enter at the beginning of either semester. Students are received at other times, but those who enter irregularly generally find themselves at a disadvantage.

Examinations for admission, and for advanced credit, will be held in the rooms of the school in University Hall, September 15-18, 1909. Admission examinations at the beginning of the second semester will be arranged with applicants.

#### COURSE OF STUDY

The course of study consists of the subjects included in the entrance requirements of the University. A general statement of the aim and scope of the work undertaken in the various branches may

be found on pages 24 ff., under the heading "Description of subjects accepted for admission".

Following is a list of the courses offered in each semester. As there are several sections in most of the subjects, it is generally possible to get any combination desired. The figures 1, 2, etc., following names of studies indicate the first, second, etc., semester of work in the subject; thus, English 1 means beginning English, and English 3 third semester (i. e., first semester of second year) English. Where no numeral is given, the course is completed in one semester.

# FIRST SEMESTER

English—English I (classics and themes); English 3 (classics and themes); English 5 (history of English literature).

Mathematics—Algebra 1; Algebra 2; Review algebra (or Algebra 3); Plane geometry 1; Plane geometry 2; Solid geometry.

Foreign Language—Latin 1; Latin 3 (Caesar); Latin 5 (Cicero); Greek 1; French 1; German 1; German 3.

History—Greek history; English history; Civics.

Science—Physiology; Zoology; Physics 1; Chemistry.

Drawing-Art and Design.

#### SECOND SEMESTER

English—English 2 (classics and themes); English 4 (classics and themes); English 6 (history of English literature).

Mathematics—Algebra 1; Algebra 2; Algebra 3; Plane geometry 1; Plane geometry 2; Solid geometry.

Foreign Language—Latin 2; Latin 4 (Caesar); Latin 6 (Vergil); Greek 2; French 2; German 2; German 4.

History—Roman history; Mediaeval and modern history; American history; Civics.

Science-Physiography; Botany; Physics 2; Chemistry.

Drawing-Art and Design.

#### OVERSIGHT OF STUDENTS

The organization of the Academy classes is like that of the classes in the University; the students come and go between their class periods without surveillance. A strict supervision of their work is nevertheless maintained. Explanations of all absences are required, and reports of the work in all classes are received by the

Principal at the end of each month. A systematic effort is made to assist every student who is found to be falling below the passing grade. Parents will be informed in any case where the student's work is seriously delinquent. They will receive full reports each month upon application to the Principal.

#### STUDENTS' ORGANIZATIONS

The Academy Athletic Association supports foot ball, basket ball, base ball, and track teams, which play the class teams of the University and the teams of neighboring high schools and academies.

The Hermean Literary Society has for its object training in writing and public speaking, and meets weekly for the presentation of programs, consisting of essays, stories, recitations, orations, debates, and the like.

#### FURTHER INFORMATION

The Calendar of the Academy is the same as that of the University.

For information in regard to fees and expenses see pages 54 ff.

For a special bulletin giving additional information about the
Academy, address C. M. McConn, Acting Principal, Urbana, Illinois

# LIST OF ACADEMY STUDENTS

1907-08

Abrams, Mrs. Hannah,
Acar, Herbert Augustus,
Adams, Eli David,
Allen, Norwin Louis,
Alsfelder, Ferd,
Andresen, Herman John,
Arnett, Leslie Y,
Arthur, Ross Conklin,
Audrain, Frederick Manar,
Babb, Charles,
Baltzer, Earl Clingmian,
Barbour, Waldo Emerson,
Barricklow, Elmer Jesse,
Batterman, Herman E.,
Baum, Floyd William,

Chicago.
Medina, N. Y.
Shumway.
Paducah, Ky.
Urbana.
Chicago.
Erie.
Streator.
Roswell, N. M.
Cissna Park.
Dakota.
Springfield.
Frankfort, Ind.
Chicago Heights.
Champaign.

Becker, Walter Charles, Bell. James Forrest, Bennett, George, Benson, Glenn Robert, Blim, Charles Hewes, Blim, Warren Caldwell, Boyd, Elmer Louis, Boyd, Helen, Boyd, Leland Edwin, Bradley, Eugene Patrick, Bradley, Eugenia, Bramon, Olive Ruth, Brant, Jennie Blanche, Brantingham, Raymond Brice, Jr., Branmiller, Edna, Bremer, Lawrence Harlan, Brooks, Charles Franklin, Brooks, Frances, Brown, Frank Earl, Brown, James Fearon, Brown, Paul Donald, Browne, Cyril, Buerkin, Edwin, Bullwinkle, Benjamin, Burling, Harold Dodge, Burnett, Burch Wesley, Butzer, Frank Ross, Butzer, Glen Douglas, Cain, Patrick Clement, Callahan, Harry Eusnitt, Callery, Frank, Calverly, James Earl, Campbell, Marvin, Campbell, Ralph Lee, Carroll, Lee Joseph, Casserly, Joseph Bernard, Cassingham, Roy Burns, Caughlan, Ralph, Challacombe, Lorena May, Chalmers, Thomas, Churchill, Leland Aurelius. Cline, Menzo Dunlap,

Quincy. Salem. Urbana. Lamville. Crete. Crete. Norris , City. Norris City. Norris City. St. Louis, Mo. Loda. Urbana. Bushnell. Chicago. Deland. Chicago. Urbana. Urbana. Chicago. Urbana. Chicago. Waukegan. Quincy. Chicago. Chicago. St. Paul, Minn. Hillsdale. Hillsdale. Wyoming. Danville. Princeville. Mt. Carmel. Paris. Peoria. Chicago. Champaign. Champaign. East St. Louis. Challacombe. Peoria. Shelbyville, Ind. Martinsvile.

Clink, William Noel, Coffman, Roy Alfred, Cofoid, Bessie Lillian, Collins, Roy Taylor, Combe, Ella Marie, Comstock, Fred, Cooper, Horace Turner, Corbin, Carl, Corboy, William Joseph, Cox, Margaret Agnes, Crary, Charles Wilbur, Crawford, Nellie Florence, Crawford, Ruth Elizabeth, Cross, Lyman, Crouch, Walker Medley, Cushing, Charles Farwell, Dahl, Charles, Dalbey, Everett Leslie, Daly, Samuel Lester, Danforth, Ralph, Darden, Jesse, Darter, William Alexander, Davis, Mallie Leona, Dean, Jessie Luella, DeMott, Irving Polhemus, DeMott, Roy Van Liew, Dernbach, William Adam, Derry, Herbert Glenn, Dick, Harry Kimball, Diebold, Ralph Edgar, Dorsey, Otis Bond, Downey, Thornton Edgar, Drake, Edwin Louis, Dunn, Enis Merlyn, Duval, Merritt Henry, Dyer, Charles Furnass, Eels, Leon Franklin, Ehrgott, Grover Cleveland, Elliott, Hazel, Engehardt, John Henry August, English, Fred Walter, Eninger, Frederick Burton,

Dix.Blandinsville. Tonica. Rock Island. Highland. Carbondale. Canton. Urbana. Chicago. Urbana. Hooveston, Champaign. Maroa. Taylorvile. Belleprairie. Mt. Morris. Chicago. Muncie. Metropolis. Chicago. Memphis, Tenn. Fort Worth, Tex. Fairmount. Carthage. Crookston, Minn. Crookston, Minn. Chicago. Vermont. Bloomington. Manasquan, N. Y. Perry. Wellington. Urbana. Aledo. Elgin. Hoopeston. Winslow. Quincy. Urbana. Urbana. Champaign. Champaign.

Eoff, Earl, Erlbacher, Frederick Leonard, Espinosa, Miguel Elenes, Evans, Arthur Thompson, Farnam, Earl Leroy, Farnam, Eva May, Fedde, Harry, Ferguson, Charles Sibley, Fisher, George Harry, Fisk. Wooster Hayden, Fitzwater, Daisy Ann Rebecca, Fort, Lyman Marion, Gage, William John, Jr., Garvey, Clella May, Genther, Otto Robert, Gilfillan, Kent Rowell, Glandon, Herbert, Glenn, Grace, Goodall, Joseph Winfield, Gossett, Irene, Graham, Henry Hugh, Grannis, George Paul, Green, Bertha, Griffith, Ambrose, Guerrero, Angel, Hadley, Thomas Alva, Hainds, Roy, Hall, Mabel Darling, Hampton, Amy Irwin, Hand, Fred Chillian, Hardin, Roscoe, Harris, Karl Merritt, Harshbarger, Ernest Mason, Hassler, Herbert Deville, Hay, Henry Collins, Hayes, Dale Irwin, Head, Augustine William, Heap, William Colby, Hecker, Morris Littlefield, Heinbeck, Herman, Helt, Harry Clifford, Henderson, Byron Gladys,

Greenup. Morris. Fopia, Mex. Wallington. Pawnee. Parenee. Peotone. Oak Park. Urbana. North Powder, Ore. Champaign. Stronghurst. Champaign. Illiopolis. Mokena. Kewanee. Brooklyn. Chambaign. Peru, Ind. Urbana. Evanston. Chicago. Ivesdale. Elburn. Washington, D. C. Sullivan. Kewanee. La Moille. Muscatine, Ia. Chambaign. Hardinville. Uvalde, Tex. Ivesdale. Urbana. Urbana. Rock Island. East Alton. Chicago. Morrison. Rock Island. Indianapolis, Ind. Chicago.

Henderson, Hugh, Herndon, John Carroll, Hicks. William Ellsworth, Hill. Charles Nelson. Hill, Jessie Ferrell, Hill, Lucy Bell, Hirtzel, Clara Lillian, Hiserodt, William Webb, Hoisington, Alice Roxy, Hopkins, Deane, Hopkins, Harry Ward, Hopkins, Newton Webb, Howard, Mary Miranda, Hudson, Alvin Nay, Huff, Charles Richey, Huff, Norval, Hutchinson, Ethel Katherine, Hutson, Louisa Jane, Hutton, Malcolm Lee, Iben, Reinhard, Janssen, Theodore, Jauregni, Mariano, Jenkins, Griffith Aebli, Johnson, Alfred Henry, Johnston, Harry Wilson, Jolly, Wesley Parvin, Jones, Jesse Karl, Jones, Rupert Forrest, Jordan, James Denney, Kane, Kent Kintzing, Karcher, Frank Joseph, Karsten, Paul, Kastel, Thomas Jefferson, Keenan, Joseph, Kegley, Mamie E., Kellogg, Clyde Whitney, Kelso, Herschel, Kempf, George Arthur. Kennan, Charles Marshall, Kent, Lee Carson, Kinzie, Marion Tanguy, Kirkwood, Thomas,

Ridge Farm. Rochester. Hardinsville. Champaign. Urbana. Urbana. Effingham. Urbana. Walshville. Racine, Wis. Champaign. Chicago. Champaign. Vandalia. Des Moines, la. Urbana. Urbana. Benton. Elizabeth. Peoria. Freeport. Clulmalma, Mex. Grand Tower. Carrollton. Danvers. Lake, Ind. Dewey. Springfield. Gifford, Ind. Pinckneyville. Herscher. Urbana. Monticello. LeRov. Urbana. Chicago. Thomasboro. Chicago. Maysville, Ky. Gridley. Hoover, Ind. Lawrenceville.

Kivel, Ulysses Kivel, Konantz, Ralph Harris, Lancaster, Raymond, Lasswell, William Sturgis, Lawless, Joe Conrad, Leavitt, Herbert Audrey, Leffler, Paul Eugene, Leman, Edwin Daniel, Locke, Harry Ross, Loucks, Ray John William, Lowell, Joseph Reed, McCaddon, Frank, McClain, Dayle C, McConnell, Andrew Henry, McGill, Charles Clement, McKee, Thomas William, McKim, Wilson Moran, McNamee, William Morrow, McQuaid, John Joseph, Martin, Reese Sargent, Mathers, Leslie, Mathers, Manley, Mattoon, Charlotte, Merner, Arthur Frederick, Merry, Dean Stone, Metzler, Clarence Wilma, Meyer, Henry Ernest, Mickener, Harry J, Miller, Harry James, Moreland, Carl Boatman, Munroe, Frank Brown, Murphy, William Ignatus, Nelson, Idris, Nelson, Peter, Oakes, Anna May, O'Donnell, Pierre James, Ogata, Louis Ichize, O'Hern, Guy, Otis, Spencer, Jr., Parkinson, Fred Edward, Penrod, Alex Gustavus, Perez, Carlos,

Paducah, Ky. Quincy. Champaign. Springfield. Bowen. Hammond. LaGrange. Shreveport, La. Blandinsville. Urbana. Washington, D. C. Champaign. Urbana. Hagerman, N. M. Lebanon, Ky. St. Clair, Mo. Tokio, Japan. Chicago. Champaign. Oakland. Momence. Momence. Champaign. Chicago. Urbana. Shumway. Morrison. Homer. Ivesdale. Farmer City. River Forest. Champaign. Canton. DeKalb. Laura. Medina, N. Y. Kumanoto, Japan. Augustine. Chicago. Mt. Carmel. Carbondale. Saltillo, Mex.

Phares, Bertha, Phares, May Josephine, Phillips, Fay Mills, Piper, Clark Culbertson, Piper, Harry Bruce, Plummer, Elizabeth, Pointer, Louis Howard. Ponder, Wilma Edith. Ponder, Wilbur Homer, Poston, Edmon Didlake, Primm, James Kellev. Rankin, Earle. Reed, Oran Wilson, Reed, Wayne Frank, Rich, Roy Harrison, Richards, Keene, Roane, Florence Pearl, Roane, Howard Earle, Robertson, Joseph Douglas, Robinson, Benjamin Franklin, Robinson, Florence Elinor. Rooth, Carrie Lee, Roff. Pearl Iola. Rundles, Earle. Runkel, Homer, Sabel, Walter, Schaller, Robert Herman, Schoettler, Arthur Carl. Schoomaker, Martin Fay. Schrodt, John Robert. Schueler, Julian Louis. Schumacher, Shirley Clevis. Schweiger, Walter Oscar, Scott, Neva Augusta, Seed, Oscar Vernon, Seigfried, Ernest. Shapland, Earl Page, Shinker, Rose Elizabeth, Sibbitt, James Harrison,

Smith. Clarence Gilbert.

Smith, Gilbert Reuben,

Smith, Jesse Theodore,

St. Joseph. St. Joseph. Urbana. Sumner. Sumner. Champaign. So. Boston, Va. Hammond. Urbana. Springfield. Urbana. Vermont. Robinson. Natalbarry, La. Springfield. Chicago. Opdyke. Opdyke. Palatine. Urbana. Urbana. Jov. Carlock. Hunter Town, Ind. Greenup. Evansville, Ind. Mendota. Belleville, Ind. Reynolds. Kingsbury. Peoria. Rockbort, Ind. Urbana. Charleston. Lawrenceville. Carthage. Saunemin. Des Moines, Ia. Hoopeston. Shelby, Mich. Illiopolis. Kankakee.

Smith, Milton David, Smith, Townsend Beverly, Snyder, Alden Eugene, Snyder, Leslie, Stafford, Jonas Clyde, Stark, John Edwin, Stephens, Carl, Stephenson, Ethel Clare, Stewart, Charles Hoaglan, Stone, Romaine Wilkinson, Sturin, Milton Leo, Swank, Olive, Swanson, Claude Magnus, Swearingen, Lellia Fern, Swent, James Waterman, Tarbell, Fred Foote, Terrill. Earl. Tibbetts, Robert Keith, Todtman, Harry George, Trimble, Robert Malcolm, Truman, Fern, Truman, Jonathan Hall, Jr.. Tucker, William Benjamin, Vantuvle, Robert, Vasen, George Benjamin, Volden, Edward Orville, Wade, Benjamin Franklin, Walker, Hugh Jesse, Walker, Robert Allyn, Wallace, Grant Vail, Wand, Anthony William, Wansborough, Robert, Watson, Minton William, Watson, Raymond Carl, Webb, Ruth Chase, Weber, Walter Harvey, Weger, John Edgar, Wellman, Viola Maud, Welsh, Don Miller, White, Herman Tilton, White, John Wilson, White, Robert Lee,

Chicago. Evanston. Kankakee. Galesburg. Chambaign. Urbana. Champaign. Urbana. Godfrey. Chicago. Decatur. Chambaign. Ludlow. Champaign. Oakland, Coi. South Bend, Ind. Colchester. Highlana. Chicago. Urbana. Urbana. Bushnell. Boston. Mo. Manchester. Quincy. Elliott. Chenoa. Stipman. Herrin. Fair Oaks. Cal. Elizabeth. Peoria. Aquascalientes, Mex. Champaign. Urbana. Tower Hill. Lawrenceville. Champaign, Hutchinson, Kan. Salem. Salem. Fairmount.

Whittaker, Harry,
Wild, Harry,
Wiley, James Elmo,
Willey, Fred,
Wolfe, William Sydney,
Wood, Asher Giles,
Woodward, Warren Crooke,
Woolman, Collett Everman,
Wright, Bertha Belle,
Wright, John Edward,
Wyeth, Paul Jones,
Wyeth, William Edward,
Ziegler, Mila,

Lawrencevile.
Gilmore.
Colfax.
Norris.
Urbana.
Urbana.
Evanston.
Urbana.
Champaign.
Herscher.
Tuscola.
Urbana.

#### SPECIALS IN MUSIC

(Classified with Academy Students)

Alberts, Dorothy Alvena, Amsbury, Harlow Aydelott, Anderson, Elma Myrtle, Baird, Ethel May, Bennett, Louise Nancy, Brown, Ollie May, Busey, Carrie Mary, Busey, Littie Louise, Castle, Ora Blanche, Castle, Richard Lloyd, Castle, Russell D, Chadwick, Frances Ione, Davenport, Margaret, Davis, Mollie Leona, Drew, Elva Elizabeth, Drew, Vivian Oneontea. Eichhorst, Flossie Edna. Evans, Harriet, Faught, Miss Donald Davidson, Fitzwater, Imogene Fern, Frizinger, Claude Thomas, Gehrke, Lillie Elsie, Gere. Rollin Chester. Gibbert, Gertrude Victorius, Hall, Ray Harvey, Holmes, Clara Bee,

Champaign. Champaign. Sadorus. Urbana. Urbana. Champaign. Champaign. Urbana. Urbana. Urbana. Urbana. Urbana. Chambaign. Fairmount. Atwood. Atwood. Chambaign. Urbana. Altamont. Shelbvville. Urbana. Champaign. Urbana. Chambaign. . Homer. Urbana.

Huff, Byron, Jervis, Florence May, Jones, Margaret, Judd, Mollie Blanche, Kern, Emma Ruth, Lancaster, Elsie May, Le Neve, Emelyn Faye, Linton, Ruth, McGee, Edna Amelia, Mackey, Sady Eleanor, Merry, Elda Maud, Miles, Ruth Columbia, Moser, Olga Fern. Mulliken, Maude Edith, Nathan, May, Overend, Lester Edwin, Patten, Daisy Delpha, Pruitt. Florence Maude, Righter, Nellie Pauline, Saffell, Gladys De Forrest, Scott, Hazel Charlotte, Shuck, Fred Vinton, Skinner, Arthur Manford Rov. Smith, David Mervin, Snyder, Letha, Stolle, Ida Josephine, Stoner, Mabel Edith, Strong, Estella Deette, Swearingen, Jennie Lois, Voss, Anna, Waggoner, Horace Gailen, Waggoner, Stanley Loren, Wendt, Clara Ida, White, Sarah Kellogg, Wood, Dorothy Ann,

Champaign, Champaign. Urbana. Wenona. Ridge Farm. Champaign. Rossville. Lewistown. St. Joseph. Streator. Urbana. Urbana. Sigel. Seymour. Villa Grove. Edelstein. Urbana. Urbana. Champaign. Urbana. Champaign. Urbana. Champaign. Urbana. Champaign. Urbana. Burnside. Champaign. Urbana. Champaign. Urbana. Urbana. Champaign. St. Joseph, Mo. Urbana.

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### ANNOUNCEMENT

The Register is issued in December and refers to work in progress, and conditions as they are. There are a few obvious exceptions, such as the calendar and the program of entrance examinations.

This volume will be supplemented by a group of College announcements, issued in May, to give information in regard to courses, etc., for the next year. These will give more fully the material for each college or school of the University, together with all details of admission and graduation. Persons who know in advance in what college they are to be enrolled should call for the Announcement of that College, and not for the general University Register.











